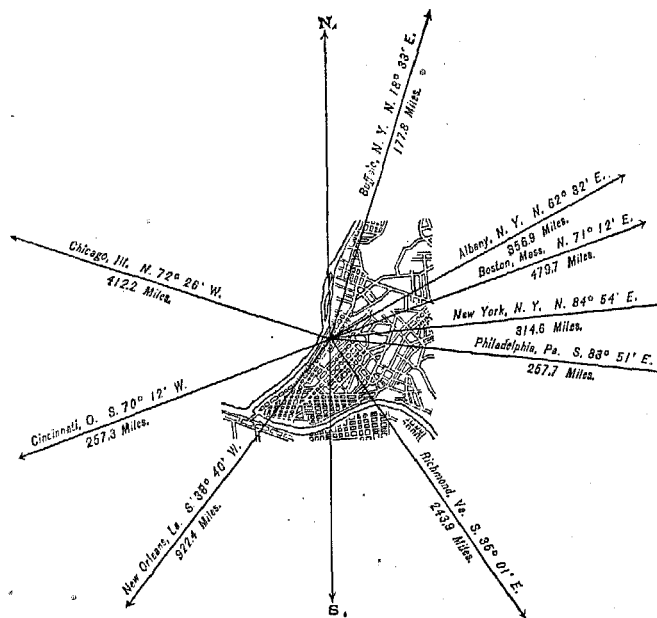


PITTSBURGH, ALLEGHENY COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	.....
1800.....	1,565
1810.....	4,768
1820.....	7,248
1830.....	12,568
1840.....	21,115
1850.....	46,601
1860.....	49,221
1870.....	86,076
1880.....	156,389



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	78,471
Female.....	77,918
<hr/>	
Native	111,784
Foreign-born	44,605
<hr/>	
White	152,292
Colored	* 4,097

* Including 20 Chinese.

Latitude: 40° 27' North; Longitude: 79° 59' (west from Greenwich); Altitude: 800 feet.

FINANCIAL CONDITION:

Total Valuation: \$93,727,903; per capita: \$599 00. Net Indebtedness: \$14,134,296; per capita: \$90 38. Tax per \$100: \$2 40.

HISTORICAL SKETCH.

At the time when the white man first appeared in the region around the head of the Ohio river, the only occupants of the soil were the Indian tribes known to the English as the Six Nations, and to the French as the Iroquois. Their home was in New York, but they were a very warlike people, and they had conquered at different times the vast territory stretching from the great lakes on the north to the gulf of Mexico on the south, from the Hudson on the east to the Mississippi on the west. The various nations composing this mighty confederation, strangely mixed together, yet preserving their distinctive and separate organizations, were dwelling here in peace when the European entered the valley of "The Beautiful River". The Englishman claimed a foothold here under

a charter from a distant king; the Frenchman rested his title upon the rights conferred by first discovery. It is useless now to inquire which had the better or which the worse claim. Certainly it was easy enough for either to find sufficient flaws in that of the other to excuse him in resistance to it. A plausible pretext alone was needed, and it was not long in forthcoming.

Toward the close of the seventeenth century the French, through the adventures and discoveries of La Salle, Marquette, and others, gained a most excellent knowledge of the country of the Ohio and the Mississippi. Canada and Louisiana already belonged to France, and measures were at once adopted looking to the extension of her empire over the vast territory west of the Alleghanies. She was anxious to strengthen herself and circumscribe her adversary by establishing a line of posts from her northern to her southern colony. The point at the junction of the Monongahela and Allegheny rivers, since recognized as the most important military portion of the Alleghany mountains, at once assumed great importance in this scheme; but, although as early as 1719 the French began actively to erect forts for the purpose of connecting Canada with the valley of the Mississippi, it was not until 1749 that measures were taken to enter formally upon the territory along the Allegheny and Ohio rivers. In that year Captain Louis Clorou, a French officer, was dispatched by the governor-general of New France (Canada) to take possession of this country. He performed that duty by depositing leaden plates bearing inscriptions at the mouths of the prominent streams. That placed at the forks of the Ohio was dated August 3, 1749. Soon after this the French began to carry out their grand idea of uniting Canada and Louisiana, and it was decided to erect one fort at the junction of the Allegheny and Monongahela and one at Logstown, 14 miles below.

In 1753 George Washington is found making a trip to the French commandant at Le Bœuf, in connection with the difficulties now beginning to arise between the French and English along the borders of the disputed territory. On the 24th of November, 1753, he arrived at the forks of the Ohio. His journal contains the following notice of this place, where at that time it is probable there was no human being residing:

The land in the fork I think extremely well situated for a fort, as it has the absolute command of both rivers. The land at the point is 25 feet above the common surface of the water, and a considerable bottom of flat, well-timbered land all around it, very convenient for building.

Immediately after his return from the very unsatisfactory conference at Le Bœuf, arrangements were made to send troops to this point. The advance guard reached the site of the future city of Pittsburgh on the 17th or February, 1754. A stockade was at once begun, but before it could be finished a large French force appeared under Captain Contrecoeur. Ensign Ward, the English commander, had only forty men under him. Resistance to several hundred French and Indians, with several pieces of cannon, was, under such circumstances, out of the question, and on the 17th of April Ward capitulated. This was the first overt act of hostility of the memorable French and Indian war. It has also been regarded as the commencement of that terrible war whose operations extended over continental Europe, Asia, Africa, and America, and which ended only with the treaty of peace of Paris in 1763.

Contrecoeur, having thus obtained possession, proceeded at once to erect a fort, which he called fort Duquesne, after the governor of Canada, the Marquis Du Quesne de Memreville. The sequel of this act was the ill-starred expedition of the following year under General Braddock, who lost his life and whose army was utterly routed while on the way to recapture the forks of the Ohio. After that memorable disaster the French remained undisputed in their possession of fort Duquesne until 1758, when General John Forbes, a gallant soldier and an officer of great skill, energy, and resolution, was sent out in command of a large expedition to regain the valley of the Ohio for the English. Most lamentable delays occurred at various places, finally resulting in the sending out of an advance detachment under Major Grant against fort Duquesne. This body reached its destination at night and at once assailed the fort. The attack, according to General Washington, was "a very ill-conceived or very ill-executed plan, perhaps both", and ended in a general rout of the British troops.

General Forbes reached Loyal-Hanna with the main body of the expedition a month and a half after the disaster which befell Grant, and then, with as little delay as possible, pushed on toward fort Duquesne. When within a few miles of it, he was chagrined to learn that the French, becoming alarmed at the augmented force of the English, and having lost most of their Indian allies, had determined to abandon their position. Unwilling to leave their successors any thing to rejoice over, they fired all the buildings, destroyed all the improvements, and, after placing a slow-match to the magazine, evacuated the place in boats. On the next day, November 25, 1758, the English took peaceable possession, the blackened walls and charred outposts alone remaining of the once proud fortress. The army was at once set to work to erect fortifications for the defense of the post. A small stockade with a bastion at each angle was constructed on the banks of the Monongahela. This was intended only for temporary use, and in the following year General Stanwix, who succeeded General Forbes on his death, built another fortification which when finished was, according to a correspondent in the *American Magazine* of September 24, 1759, "a most formidable fortification, such an one as will to latest posterity secure the British empire on the Ohio". It was called fort Pitt, in honor of the British premier, to whose measures in great part was due the successful termination of this protracted war. With the fall of fort Duquesne ended the struggle between French and English in the valley of the Ohio, and within a short time the French lost their other strongholds on this continent.

After the completion of fort Pitt in the spring of 1760 the country west of the Alleghanies was very quiet, until in 1763 another war broke out, and the forks of the Ohio again became an object of attack and a base of military operations. In this famous contest, usually known as Pontiac's war, the intent of the Indians was to check the white men in their progress westward, and even if possible to expel the European from the American continent. To this end there was arranged a simultaneous attack on the unsuspecting settlers by all the Indians along the western border. Luckily their plans miscarried, and fort Pitt was assailed two or three days before the time appointed, thus depriving the general rising of half its danger. Indians surrounded the fort and cut off all communication with it. They posted themselves under the banks of both rivers, and continued there from day to day with great patience, pouring in showers of fire, arrows, and musketry, hoping by famine and fire, or by harassing the garrison, to carry the works. The place remained in a critical condition for more than three months, its position being hazardous in the extreme. At last it was relieved by an expedition under General Bouquet, who signally defeated the Indians in a battle at Bushy Run, 21 miles from Pittsburgh. Of the eleven forts along the lakes and the Ohio, fort Pitt was one of the three that remained uncaptured throughout the war. Peace was not made till the fall of 1764.

Meantime a little village had sprung up around fort Pitt, to which the name Pittsburgh was given. The first town of Pittsburgh was built in 1760, and was divided into the upper and the lower town. In April, 1761, according to a list of the houses and inhabitants outside the fort, carefully prepared by Colonel Bouquet, there were 233 men, women, and children, besides 95 officers, soldiers, and their families residing in the town, making the whole number 332; the number of houses was 104. The lower town was nearer the fort, the upper being on higher ground, principally along the banks of the Monongahela, extending as far as the present Market street. The exemplary character of the early settlers of the place is well illustrated by the following extract from a diary kept by one James Kenny, who had a trader's store at the fort in 1761:

12 mo., 4.—Many of ye inhabitants have hired a schoolmaster, and subscribed above sixty pounds for this year for him, he has about twenty scholars likewise, ye sober sort of people seem to long for some public way of worship, so ye schoolmaster, etc., reads ye Litany and Common Prayer on ye first day to a Congregation of different principles (he be a Prisbiterant), where they behave very grave (as I hear) on ye occasion, ye children are brought to Church as they call it.

The second town of Pittsburgh was laid out in 1765, by Colonel John Campbell, by permission of the commanding officer at the fort. It comprised the ground within the present Water, Market, Second, and Ferry streets. In September of the next year, according to an entry in the journal of Rev. Charles Beaty, Pittsburgh was "some kind of a town without the fort". It can only be inferred from this curt, disparaging expression that the embryo city was a very poor sort of an affair at that time. The appearance of the little settlement "without the fort" must have been any thing but suggestive of its future greatness.

The Indian title to the country east of the Allegheny river remained unextinguished as late as 1768. On the 24th of October in that year a congress was held at fort Stanwix (now Rome), New York, at which were present representatives of the colonies, and chiefs from each of the Six Nations, and from the Shawnees and Delawares. The cession made at that time gave to the Penns all the territory in Pennsylvania south of the west branch of the Susquehanna, and of a straight line from the northwest corner of Cambria county to Kittanning, and all the territory east of that part of the Allegheny river below Kittanning, and all the country south of the Ohio; so that Pittsburgh and the country eastward of it was ceded, while the country west of the Allegheny and north of the Ohio was still Indian country, and remained such for many years. While the proprietaries prepared to sell most of the lands thus obtained, they reserved certain portions as their private property, and among them the country immediately surrounding fort Pitt. This was designated as the "Manor of Pittsburgh", and was found, on its survey early in 1769, to contain 5,766 acres, and allowance of 6 per cent. for roads, etc.

More than a year after this time we find, in the journal of George Washington, the next record of the progress of the town. Under the date of October 17, 1770, being then on his way to Kanawha to examine and locate lands for himself and others, he writes concerning Pittsburgh as follows:

We lodged in what is called the town, distant about 300 yards from the fort, at one Sempler's, who keeps a very good house of public entertainment. The houses, which are built of logs, and ranged in streets, are on the Monongahela, and, I suppose, may be about 20 in number, and inhabited by Indian traders.

From this it would seem that in the last nine years there had been no progress, but, on the other hand, that the place had lost four-fifths of its houses, and, presumably, that it had proportionately diminished in population. Two years later, in October, 1772, the officer here commanding received orders from General Gage, the commander-in-chief of the British forces in North America, to abandon fort Pitt. In carrying out this order, Major Edmonson sold the pickets, stones, bricks, timber, and iron in the walls and buildings of the fort and redoubts for the sum of £50, New York currency. The fort had originally cost the government about £60,000, sterling. It was not destroyed, though abandoned as a military post by the British government. Early in the year 1774 it was reoccupied and repaired by Dr. John Connolly, under orders from Lord Dunmore, governor of Virginia, and during the Revolutionary war it was constantly occupied by colonial soldiers, first by Virginia troops, under Captain John Neville, and subsequently by continental troops, under General Hand, Colonel Broadhead, and General William Irvine. The occupation by Connolly was in accordance with the belief held by Lord Dunmore, that the western

boundary of Pennsylvania did not include Pittsburgh and the Monongahela river. The quarrel between the Penns and the weak and arbitrary Virginia governor ran on through the year and into 1775, until the latter fled from the colony at the outbreak of the Revolutionary troubles. The boundary question, however, continued to disturb the inhabitants of the disputed territory and the vicinity, an amicable settlement not being reached till 1779. In August of that year, commissioners of the two states went to Baltimore and agreed "to extend Mason and Dixon's line due west 5 degrees of longitude, to be computed from the river Delaware, for the southern boundary of Pennsylvania, and that a meridian, drawn from the western extremity thereof, to the northern limit of said state, should be the western boundary of said state forever". This agreement was ratified by the legislature of Pennsylvania and the general assembly of Virginia in the next year.

During the Revolution the Penn family adhered to the British government, and, in consequence, the assembly confiscated their property, with the exception of certain estates and manors, one of which was the manor of Pittsburgh. In the fall of 1783 the proprietaries, John Penn, jr., and John Penn, concluded to sell the lands within the manor of Pittsburgh. The first sale was made in January, 1784, to Isaac Craig and Stephen Bayard, of all the ground between fort Pitt and the Allegheny river, "supposed to contain about 3 acres". Subsequently, however, the proprietaries concluded to lay out a town at the junction of the rivers, so as to embrace within its limits the 3 acres agreed to be sold, as well as all the ground covered by the fort. The laying out of the town was completed in June and approved in September. Sales immediately began, and many applications for lots were made as soon as the survey was completed, even before it had been traced on paper.

In December of this same year (1784) Arthur Lee, a Virginian, who, with Benjamin Franklin and Silas Deane, had been a commissioner at the court of Versailles, arrived here. In his journal he says, among other things:

The banks of the Monongahela on the west or opposite side to Pittsburgh are steep, close to the water, and about 200 yards high. About a third of the way from the top is a vein of coal, above one of the rocks. The coal is burnt in the town, and considered very good. The property of this and of the town is in the Penns. They have lotted out the face of the hill at thirty pounds a lot, to dig coal as far in as the perpendicular falling from the summit of the bank. * * * Pittsburgh is inhabited almost entirely by Scots and Irish, who live in paltry log houses, and are as dirty as in the north of Ireland, or even in Scotland. There is a great deal of small trade carried on, the goods being brought at the vast expense of 45 shillings per hundred weight from Philadelphia and Baltimore. They take in the shops money, wheat, flour, and skins. There are in the town four attorneys, two doctors, and not a priest of any persuasion, nor church, nor chapel, so that they are likely to be damned, without the benefit of clergy. * * * The place, I believe, will never be considerable.

The first newspaper west of the Alleghany mountains was established here, being called the *Pittsburgh Gazette*. Its first number was issued on the 29th of July, 1786. According to a communication by Judge Breckenridge that appeared in it, Pittsburgh as then built stood chiefly on what was called the third bank, that is, the third rising of the ground above the Allegheny water. The town then consisted of "about 100 dwelling-houses, with buildings appurtenant. More are daily added, and for some time past it has improved with an equal but continual pace. The inhabitants—children, men, and women—are about 1,500, this number doubling every year from the accession of people from abroad and from those born in the town". Mr. Breckenridge has either made some mistake in the estimate of the population, or they stowed close, for his estimate gives 15 people to each house. *Niles' Register*, volume 30, page 436, says that "Pittsburgh in 1786 contained 36 log houses, 1 store, 1 frame, and 5 small stores". Dr. Hildreth, two years later, says, "Pittsburgh then contained from four to five hundred inhabitants," and a census made of the borough in 1796 gives the population then at only 1,395. So it is probable that the *Niles' Register* record of houses is correct, and that the population at that period was about 400.

When the *Pittsburgh Gazette* was first issued there was no mail to this place; all correspondence was carried on by special express or by casual travelers. According to the issues of this paper of the 19th and 26th of August, 1786, there was one clergyman of the Calvinistic faith settled here, and one German Lutheran occasionally preached in the village. It is also stated that "a church of squared timber and moderate dimensions is on the way to be built". On the 1st of March, 1781, a meeting of the inhabitants was held, and a committee was appointed to report a plan for building a market-house and establishing market days. Such a house was subsequently erected. In 1787 the state legislature passed an act for the establishment of an academy, or public school, at Pittsburgh. Dr. Hildreth, of Marietta, describes the town as it was in 1788 as follows: "Pittsburgh then contained four or five hundred inhabitants, several retail stores, and a small garrison of troops was held in old fort Pitt. To our travelers who had lately seen nothing but trees and rocks, with here and there a solitary hut, it seemed to be quite a large town. The houses were chiefly built of logs, but now and then one had assumed the appearance of neatness and comfort."

Pittsburgh had hitherto been in Westmoreland county, and its citizens had been obliged to go more than 30 miles to attend court; but on the 24th of September, 1788, an act of the legislature was passed, erecting the new county of Allegheny out of parts of Washington and Westmoreland. By this act the courts were to be held in Pittsburgh until certain trustees named therein should erect suitable buildings on the reserved tract opposite Pittsburgh where Allegheny now stands. That place was laid out by order of the sovereign authority of Pennsylvania, in the year 1789. On the 22d of April, 1794, the first act was passed incorporating the town of Pittsburgh into a borough.

In the years 1791-94 Pittsburgh was the scene of the celebrated whisky insurrection. In 1756 the province of Pennsylvania laid an excise on whisky to sustain its credit; this law was to continue ten years. During the

Revolution the law was generally evaded in the west, but when the debts of the Revolution began to press upon the state a more vigilant enforcement of the law was attempted. Opposition at once arose, and liberty-poles were erected in the western counties. The settlers of those localities were descended from the people of North Britain and Ireland, and many of them brought their hatred of an exciseman from the old country. In that day whisky-drinking was as common and honorable as eating bread. The cause of the American Revolution had been an excise law, and the people supposed they were only following the example whose results they had lately fought out. The state law was accordingly repealed, but the national government took up the idea and developed it with still more unfortunate results. When Congress assembled in December, 1790, the nation was burdened with the debt contracted during the seven years' struggle for independence, the country was involved in war with some of the western Indians, the expenses of the government were necessarily large and the revenue but small, so that additional taxes became indispensable. No tax seemed more proper than one on spirits, both foreign and domestic. Accordingly, early in 1793, a bill was passed imposing a tax of from 9 to 25 cents per gallon, according to their strength, upon spirits distilled from grain. The passage of the act was opposed by the representatives from the western counties of Pennsylvania, among whom was Albert Gallatin, representing Fayette county, who, with others, on their return, openly and loudly disapproved of the law. Public meetings were held at different places, resolutions were passed denouncing the tax, and in some cases violence was offered to the collectors of the excise. The government was not yet in a position to enforce the law, and, with the exception of a Presidential proclamation enjoining all persons to submit to it and desist from unlawful proceedings, no steps were taken to coerce the people. At the next session of Congress material alterations were made in the law, and great pains were taken to obviate all objections that had even the appearance of reasonableness. But the inhabitants of the four western counties of Pennsylvania refused to be pacified. Disaffection spread rather than diminished, and the opposition even turned to some extent from the objectionable law to the Union itself. Acts of violence increased in number and boldness. Finally, in June, 1794, the bill was amended, but in such a way as to render more effective the measures adopted by the Executive to secure obedience to the laws. This added more fuel to the flames. In that very month several serious riots occurred, and in July many outrages were committed, and houses and stills were burned. On the 16th of July the house of General Neville, 7 miles southwest of Pittsburgh, was attacked and burned, several persons being killed or wounded. Various meetings of the insurgents were held at different places, and in July, 1794, a large number of men assembled at Braddock's, many in organized companies, under arms, for the purpose of attacking Pittsburgh. They marched into the town, and, after receiving refreshments, which the terrified inhabitants hastened to furnish, the greater part marched out again. The more orderly dispersed, but several parties kept together and made some disturbance, one of them burning a barn. The insurrectionary feeling had now reached its height. A word in favor of the law was ruin to any one. On the contrary, to talk against the law was the way to office and personal popularity and profit. The reign of terror was completely established.

On the 14th of August a meeting of two hundred and sixty delegates was held at Parkinson Ferry, now Monongahela City. Albert Gallatin and H. M. Breckenridge both took prominent part in the discussion, and the treasonable plans of Bradford were softened down and explained away; the original force of the insurrection was condensed to a committee of sixty, which was to be represented by an executive committee of twelve, who were to confer with the United States commissioners. To gain time, and thus restore quietness, was the object of Mr. Gallatin and his friends. The commissioners proposed an amnesty, which, at a meeting held at Redstone Fort, August 28, was accepted through the arguments of Mr. Gallatin and Mr. Breckenridge. This meeting virtually ended the insurrection, although there were enough malcontents left to render it necessary, in the opinion of the President, to send an army of 15,000 men to Pittsburgh, under General Lee. The army arrived in Pittsburgh in November, but met with no opposition, nor was any blood shed. The army soon returned to their homes, General Daniel Morgan being left with a few battalions to maintain quiet during the winter. In the spring; order being fully restored, these, too, were withdrawn.

Of all the prisoners made during these disturbances, who were tried before the circuit court at Philadelphia, only two were found guilty of capital offenses—one of arson, and the other of robbing the mails. Both of them from some palliating circumstances were ultimately pardoned by the President.

The vigor, energy, promptitude, and decision with which the federal authority had been vindicated, the general rally in its support, and the reprobation everywhere expressed against violent resistance to the law, made a great addition to the moral strength of the government. While the expense of suppressing the outbreak was rather burdensome to our young country, with its new and untried Constitution, to western Pennsylvania itself the material results were certainly not harmful. Among the volunteers who came out to suppress the insurrection were many enterprising mechanics, young men just passing out of their apprenticeships and on the lookout for homes. Many of them were well pleased either with Pittsburgh or the country around, and many of the present citizens of the vicinity are the descendants of persons who made their first visit here as volunteers against the whisky insurgents.

In the *Pittsburgh Gazette* of January 9, 1796, we find the following statement: "The number of inhabitants in the borough of Pittsburgh, as taken by the assessors last week, amounts to 1,395." Other evidence, however, indicates that there were not yet over 1,000 inhabitants in the place. The census of 1800 gives Pittsburgh 1,565 inhabitants, and in the next ten years the increase was 3,203. This was a surprising start to be taken by the place

which Arthur Lee had prophesied so few years before would "never be considerable". It was a start wholly due to those two great factors in American progress—commerce and manufactures. In 1789 the author of a volume entitled *An Historical Review of North America*, said: "Pittsburgh is a neat, handsome town, containing about 400 houses. * * * It is expected this town will in a few years become the emporium of the western country." The expectation was realized. Pittsburgh became the mart of the Ohio valley. At the same time manufactures sprang up to such an extent as to make her the manufacturing center of the West. With this epoch begins the history of the Pittsburgh of to-day.

Pittsburgh's connection with the carrying trade of the western rivers dates back to the days when fort Duquesne stood at the forks of the Ohio. In February, 1756, one John McKinney, a prisoner at the fort, wrote that "while he was at fort Duquesne, there came up the Ohio from the Mississippi about 30 bateaux, and about 150 men, loadened with pork, flour, brandy, peas, and Indian corn; they were three months in coming to fort Duquesne, and came all the way up the falls without unloading". Bateaux continued to be the chief means of transportation on the western rivers for many years. In course of time they began to be built at Pittsburgh, and there gradually grew up a business of much importance to the town, viz, boat-building. February 23, 1777, is given as the date of the beginning of this business, for on that day "fourteen carpenters and sawyers arrived at fort Pitt from Philadelphia and were set to work on the Monongahela, 14 miles above the fort, near a saw-mill. They built 30 large bateaux, 40 feet long, 9 feet wide, and 32 inches deep, which were intended to transport troops".

During the last quarter of the eighteenth and the first decade of the nineteenth centuries, the commerce of the Ohio and the Mississippi was carried on in keel-boats and flat-boats. In July of the year 1794 a line of mail-boats was established, to run from Wheeling to Limetown and back, once in every two weeks, the mails being carried from Wheeling to Pittsburgh and back on horseback. These boats "were 24 feet long, built like a whale-boat, and steered with a rudder. They were manned by a steersman and four oarsmen to each boat. The men had each a musket and a supply of ammunition, all of which were snugly secured from the weather in boxes alongside their seats". The same year there was started a line of boats from Cincinnati and Pittsburgh, each boat performing the round trip once in every four weeks. The advertisement of this line reads curiously in these days:

The proprietor of these boats having maturely considered the many inconveniences and dangers incident to the common method hitherto adopted of navigating the Ohio, and being influenced by a love of philanthropy and a desire of being serviceable to the public, has taken great pains to render the accommodations on board the boats as agreeable and convenient as they could possibly be made. No danger need be apprehended from the enemy, as every person on board will be under cover, made proof against rifle- or musket-balls, and convenient port-holes for firing out of. Each of the boats is armed with six pieces, carrying a pound ball; also, a number of good muskets, and amply supplied with plenty of ammunition, strongly manned with choice hands, and the masters of approved knowledge.

The building of sea-going vessels was established at Pittsburgh by a French gentleman, Louis Anastasius Tarascon, who emigrated from France in 1794, and established himself in Philadelphia as a merchant. In 1799 he sent two of his clerks, Charles Brugiere and James Berthoud, to examine the course of the Ohio and Mississippi from Pittsburgh to New Orleans, and ascertain the practicability of sending ships and clearing them, ready rigged, from Pittsburgh to Europe and the West Indies. The two gentlemen reported favorably, and Mr. Tarascon and others immediately established at Pittsburgh a large wholesale and retail store and warehouse, a ship-yard, a rigging- and sail-loft, an anchor smith-shop, a block manufactory, and all other things necessary to complete sea-going vessels. The first year, 1801, they built the schooner "Amity", of 120 tons, and the ship "Pittsburgh", of 250 tons, and sent the former, loaded with flour, to Saint Thomas, and the other, also loaded with flour, to Philadelphia, whence they sent them to Bordeaux, France, and brought back a cargo of wine, brandy, and other French goods, part of which they sent to Pittsburgh in wagons, at a carriage of from 6 to 8 cents a pound. In 1802 they sent the brig "Nanina", 250 tons; in 1803, the ship "Louisiana", of 300 tons; and, in 1804, the ship "Western Trader", of 400 tons.

The year 1811 was an important one in the commercial history of Pittsburgh, for in it was built the first steamboat for the navigation of the western waters. It was called the "New Orleans", was 138 feet keel and between 300 and 400 tons burden. Her cabin was in the hold, and she had port-holes; also, a bowsprit 8 feet in length, in ocean-steamer style, which was painted sky-blue. She was owned by Messrs. Fulton, Livingston, and Rosewalt, and her construction was superintended by the latter gentleman. Her cost was \$40,000. She was launched in March, and descended the river to Natchez in December, at which point she took her first freight and passengers, and thence proceeded to New Orleans, on the 24th of the same month. She continued to ply between New Orleans and Natchez until 1814, making the round trip in ten days, conveying passengers at the rate of \$25 up and \$18 down. On her first year's business she cleared \$20,000 net. In the winter of 1814 she was snagged and lost near Baton Rouge. The business did not grow rapidly in Pittsburgh. Up to 1815 only 5 steamboats were built here, but in the next five years 21 were constructed. In the period from 1811 to 1836, inclusive, 252 steamboats were built here. In 1837 there were owned here, and running in regular lines to this city, 63 boats, of an average value of \$15,000 each, being a total of \$945,000. In 1846 there were built here 63 steamboats, besides keels, barges, etc. The tonnage of the steamboats was 11,084 tons. From 1852 to 1856, inclusive, there were constructed at this point 362 steamboats, measuring 62,483 tons, and valued at \$7,890,700. In 1857 there were completed at Pittsburgh 84 steamboats, of the value of \$1,680,000. From 1857 to 1875 there were constructed in the vicinity

and enrolled in the district of Pittsburgh 649 steamboats, whose aggregate tonnage was 155,253 tons, and whose value was \$21,886,073. In the same period there were constructed 518 barges, whose tonnage was 100,883 tons; also, 496 keel- and flat-boats, having a tonnage of 21,662 tons, and 26 ferry-boats, with a tonnage of 2,681 tons.

While speaking of the commercial history of Pittsburgh, the relation of the canal to it may be mentioned. The Pennsylvania canal was begun in 1826, and the first canal-boat arrived at Pittsburgh on the 10th of November, 1829. In 1835 the Erie canal, or the greater portion of, it was put in operation, opening up another mineral and agricultural field to Pittsburgh, where the products found a ready market, and augmenting the amount of business done there. The boats reached Pittsburgh by being towed by steam-tugs up the Ohio from the mouth of Beaver creek, 26 miles below the city. Soon after this a canal called the Cross-cut was built, connecting the Erie with the Ohio canal at Akron, Ohio. By this connection, long before there was a railroad in the West, freight could be shipped to Cleveland, Erie, Buffalo, Detroit, and other intermediate points without breaking bulk. In 1836 was begun the improving of the Monongahela by locks and dams, to meet the efforts of Marylanders east of the mountains. The idea was to open a channel of commerce to Pittsburgh by way of the Potomac canal to Cumberland and the Cumberland pike to Brownsville. After much opposition the work was completed in 1844, and added much to the prosperity of the iron city.

In this connection may also be mentioned the introduction of the towing system in river commerce. Until 1850 all the coal exported from this city was floated down the river in large flat-bottomed boats, which were usually 125 feet long, 16 feet wide, and 8 feet deep, with flat perpendicular sides, bow, and stern. Each boat of this size held about 15,000 bushels of coal, and they were floated to their destination lashed in pairs. The usual complement of hands for such boats was 23 or 24. These boats could only be floated down the river, or, as it was technically termed, "run", in the high floods that generally from time to time, in the spring and fall of each year, swell the current of water in the Ohio river. Of late years a system of towing has been introduced by barges and steamboats constructed expressly for the trade, which, being adopted, has caused the Pittsburgh "coal-boat" to disappear from the waters of the Ohio and Mississippi rivers.

The situation of Pittsburgh at the junction of the Allegheny and Monongahela rivers made it the commercial center of the region. As this region abounds in coal, iron ore, and other minerals, it naturally became at the same time the chief manufacturing city of the country just west of the Alleghenies. The existence of coal in the neighborhood was early noticed, but its presence seems in those days to have been thought of little importance. But as the years went on the possibilities of the immense mineral deposits of western Pennsylvania began to be realized and their resources utilized.

The establishment of iron-works at this point, then, was doubtless due to two causes—first, its location with reference to water transportation, both in receipt of raw material (pig-iron) and for the forwarding of the manufactured product to the West. The pig-iron at first used in its mills was brought in part from the neighboring counties, but much of it was brought from Juniata valley to Johnstown and floated with the spring and fall freshets to Pittsburgh. The second cause was its supply of easily mined coal.

The beginning of this century marks the beginning also of the iron industry of Pittsburgh. It is well authenticated that a small blast-furnace—Anschutz's—was erected in 1792, at a point in Pittsburgh now known as Shady Side, some 3 miles from the Union depot, on the Pennsylvania railroad, but it was abandoned in 1794. Though the date of the erection of this furnace was in the last century, it was so soon permanently abandoned, and the blast-furnace industry in Allegheny county was so long dormant—until 1859—that it is fair to say that Pittsburgh's iron industry dates no farther back than the beginning of the century.

The exact date of the establishment of the first iron-works in Pittsburgh can not be given. A foundry was built in 1803 by James McClurg, on the site of the present post-office, and in 1807 there were 3 nail factories in the city. In 1810 about 200 tons of cut and wrought nails were made. In 1813 there was a steel furnace, owned by Tuper & McKowan, and a rolling-mill owned by Christopher Cowan. This mill was built in 1812, but did not puddle. It was at the corner of Penn avenue and Cecil alley, where the 4th ward school-house now stands. The first patent nail-machine used in Pittsburgh is said to have been in this mill in 1814. In 1817 there were 4 iron foundries here, employing 87 hands, and producing \$180,000 worth of cast iron. There were 2 steam-engine makers, employing 70 hands, and producing engines to the value of \$125,000; there was 1 wire-drawer, employing 12 hands, and producing \$6,000 worth of wire per year. The second rolling-mill in the city was the Union, on the Monongahela, built in 1819, but accidentally blown up and dismantled in 1829. This mill had 4 puddling-furnaces, the first in Pittsburgh. It was also the first mill in Pittsburgh to roll bar iron. In 1825 there were 7 rolling-mills, 8 iron foundries, 6 steam-engine manufactories, and 1 extensive wire manufactory in the city. In 1829 there were, according to the *Gazette*, 9 foundries, consuming 3,500 tons of metal and employing 225 hands; 8 rolling-mills, using 6,000 tons of blooms, 1,500 tons of pig-iron, and employing 300 hands; 9 nail factories, employing 150 hands and producing 18 tons of nails; 7 steam-engine factories, employing 210 hands; and the total consumption of iron was 6,000 tons pig and an equal quantity of blooms. In 1830 there were 9,282 tons of iron rolled and 100 steam-engines built.

Steel began to be made in Pittsburgh, as before noticed, in 1813. In 1829 an Englishman named Broadmeadow, and his sons, built a converting furnace in the city and made steel. The enterprise did not succeed, the quality of the article produced being very poor. The failure was no doubt attributed to the want of proper material, and this

cause was for a long time the obstacle to the production of the higher grades of steel with all who attempted its manufacture. Josiah Ankrim & Son, file-makers, are said to have succeeded in making cast steel for their own use in 1830. About 1833 Messrs. G. & H. Shoenberger began the manufacture of blister steel with one furnace, converting 25 tons every three weeks, and continued the manufacture thereof until 1862. A firm under the style of Whitman & Havens also manufactured steel about 1832. The charcoal irons used at that time were admirably suited for the purpose, and the efforts in the production of this grade of steel were successful. The products, however, met with that severe prejudice on the part of consumers that Pittsburgh cast steel afterward encountered. The introduction of the genuine or blister steel made at Pittsburgh was attended with considerable difficulty. Consumers could not be made to believe that the blister steel of Pittsburgh was in any way equal to that brought across the Atlantic, although expert workmen were sent to visit consumers to prove to them the fact. It was only after Pittsburgh blister steel, which had been rusted by throwing salt water over it so as to make it appear as of English manufacture, was sold to consumers that it was found to be all that could be desired. In 1852 McKelvy & Blair made good cast steel, but not the best, and in 1853 Singer, Nimick, & Co., and in 1855 Isaac Jones, produced cast-steel for saws, machinery, and agricultural purposes, but not tool steel. In 1859 Hussey, Wells, & Co. successfully made crucible cast steel of the best quality as a regular product, and three years later Park Brothers & Co. did the same.

From the time of the abandonment of the Anschutz furnace to 1859 there were no blast-furnaces in Pittsburgh. In October of that year the Clinton furnace of Graff, Bennett, & Co. was blown in. The absence of native ores was the cause of the interregnum. To-day the largest and best blast-furnaces of the country are in Pittsburgh, the ores used being mainly from lake Superior.

Next in importance to the iron industries of Pittsburgh have been her glass-works. The first glass-house in the town is said to have been in operation in 1795. Who built the works, and under what circumstances they were begun, are points shrouded in obscurity. It is, however, of record that arrangements for the manufacture of this article were begun at Pittsburgh by General James O'Hara, in company with Major Isaac Craig, in 1796. Their first glass-house had but 8 pots, whose capacity was equal to 3 boxes to a blowing. Craig withdrew from the business in 1793, and O'Hara carried it on alone thereafter. In 1802 he built additional glass-works, and made preparations to carry on the flint-glass business, sending an agent to England for the purpose of procuring workmen, but the person returned unsuccessful from his mission. In 1807 the products of his factory are recorded at \$18,000. In the same year Robinson & Ensell began the manufacture of flint glass, but, owing to disagreements in the firm, transacted little or no business; and in 1808 they were bought out by Messrs. Backewell & Page, by which house the manufacture of flint glass has been continued to the present time. In 1810 there were 3 glass-works in operation, producing flint glass to the value of \$30,000, and bottles and window glass to the value of \$40,000. At that time it was recorded of glass-cutting:

This business has been recently established by an ingenious German (Eichbaum), formerly glass-cutter to Louis XVI, late king of France. We have seen a six-light chandelier, with prisms, which does credit to the workman and reflects honor on our country, for we have reason to believe it is the first ever cut in the United States.

In 1813 the number of glass factories had increased to 5, producing glass to the value of \$160,000. In 1825 *Niles' Register* stated that window-glass was then made to the amount of 27,000 boxes, having a value of \$135,000, and flint glass to the value of \$30,000, about \$100,000 worth of which was exported. In 1831 there were 8 glass-houses, 4 flint-glass, 32 pots, 4 window-glass, employing 102 hands, using 7,000 cords of wood, 700 tons of sand, 1,000 barrels of salt, 40,000 pounds of potash, 150,000 bushels of coal, producing about \$500,000. In 1837 there were 13 glass factories, 6 of which were flint-glass works, and the balance green and window glass, making about \$700,000 worth of glass. Twenty years afterward, in 1857, there were 33 factories at Pittsburgh, of which 9 produced flint glass, and 24 window, green, and black glass, to the value of \$2,631,990. They employed 1,982 hands, whose wages were \$910,116, and consumed material to the amount of \$2,078,734 40. In 1865 there were 15 bottle and vial factories, 15 window-glass factories, and 15 flint-glass works in Pittsburgh, being 45 glass-works in all, an increase of 48 per cent. in number in eight years. Those 15 window-glass works, located immediately at Pittsburgh, had a capacity to make 520,000 boxes of glass a year, but their average yield was about 400,000 boxes, whose entire value at that time was \$2,600,000. The green or vial works produced annually about 420,000 gross, or 60,480,000 of vials and bottles, worth at that time \$2,100,000. The pressure upon these works at the time is best shown by the fact that, although customary to run them for only 10 months in the year, yet many of them had run 21 months without stopping. The flint-glass works then in operation at Pittsburgh produced about 4,200 tons of glassware, worth then, in round numbers, \$2,000,000. Their capacity was, however, double the amount produced, or about 8,000 tons.

Perhaps next in importance to the glass-works of Pittsburgh to-day stands her oil trade. This trade dates back only two decades, yet it has become of immense size and importance. Accordingly the date 1859, though not marking the discovery of petroleum, is of great interest as marking the beginning of the production of this substance for commercial purposes. The discovery of petroleum in this country dates back more than two centuries and a half. As early as 1627 the fact of its existence was made a matter of comment by a French missionary, Joseph Dalaroché, in letters written from near that locality which has lately become so prolific of oil, known as

the Bradford regions. De Charlevoix, a French historian, traveler, and Jesuit, in his *Histoire de la Nouvelle France*, recounts, from his journal of May, 1721, the fact of there being at the headwaters of the Allegheny fountains which are like oil, having the taste of iron, with a "*piquante odeur*", and being used by the natives for the alleviation of pain. This is regarded as the first reliable mention of petroleum in Pennsylvania. For many years prior to 1859 it was gathered from the pools and waters of oil creeks by absorption in blankets or woolen fabrics, which were spread upon the surface of the stream and at intervals wrung out. By this tedious process the annual product may have reached perhaps a hundred barrels, which was known as Seneca oil, rock oil, or naphtha, being sold as a medicament for certain diseases, especially those of a rheumatic character. Kier's petroleum liniment was well known during the period between 1851 and 1859-'60. This preparation was manufactured by Mr. Samuel Kier, a resident of Pittsburgh, by whose advice the first commercial oil-producer began operations, and in whose shop was constructed the first oil-rig, primitive tools that would now be regarded as curiously obsolete. Supplied with these implements, Colonel E. L. Drake, of New Haven, Connecticut, began to bore for oil at Titusville, in June, 1859, and after laboring for more than two months was rewarded by striking a 25-barrel well; and from that moment dates the prodigious excitement which spread all over the country and hurried to western Pennsylvania all the drifting argonauts of fortune from Nova Scotia to New Mexico. No such exodus to any given locality had hitherto been known in this country, or perhaps in any other. Not even during the gold excitement were the shores of California visited with crowds so vast or heterogeneous. Towns of no small magnitude actually sprang into existence in the night like mushrooms, and the oil regions of the Keystone state were metamorphosed almost by magic from deserted wildernesses into thriving populous communities, while sudden wealth poured from the punctured bosom of mother earth with a copious prodigality that seemed absolutely limitless. The consequent excitement of that period, in which Pittsburgh was deeply involved, and the immediate conversion of numerous refineries which had been erected for the distillation of coal into refineries for petroleum, is a well remembered phase of local history. This city became at once the virtual center of the oil trade of the world, a position still sustained, and of which it would be difficult to deprive her. Up to 1867 Pittsburgh supplied over 60 per cent. of the whole foreign exportation of petroleum. At that time there were 58 refineries in the city of Pittsburgh and suburbs; of these, 51 were in operation and 7 were idle. These refineries employed about 700 hands, whose yearly wages amounted to \$560,000.

Data from which to estimate the growth of the manufactures and trade of Pittsburgh, taken as a whole, are very scarce, but a few figures can be given:

In 1804 *Cramer's Almanac* says: "Do not be surprised when you are informed that the average value of the articles manufactured in Pittsburgh for 1803 amounts to upward of \$350,000." In 1817 there were 259 manufacturing concerns in the place, employing 1,637 hands and producing \$2,266,366 of manufactures. In 1837 the manufactures of the city were summed up at \$11,606,350; the coal trade at \$565,200; the whole mercantile and commercial business at \$18,975,000 (including the retail trade). In 1856, according to actual figures, the manufactures amounted to \$39,431,717, and the figures were not complete. In 1857 the wholesale trade alone was, without the commission business, other than pig-metal, \$22,723,370.

The general history of Pittsburgh since the beginning of the present century contains but few events that are worthy of note in a brief sketch. A list of disjointed facts is all that can be given. On the 1st day of January, 1804, a branch of the Bank of Pennsylvania was established here, a sure sign of the growing commercial importance of the place. In May, 1805, the first stage started from Pittsburgh to Chambersburg, and in the beginning of May, 1806, the first advertisement of the commissioners for the construction of a turnpike road from Pittsburgh to Harrisburg appeared in the Pittsburgh papers. The ship-building and iron industries of Pittsburgh came into play for the direct advantage of the country in the war of 1812. The equipments for the fleet of Perry upon Lake Erie were in a great measure furnished from Pittsburgh; part of the cannon were cast there, and the cordage came from rope-works then in existence at that point.

In 1814 the Bank of Pittsburgh was incorporated. On the 18th of March, 1816, the act was passed erecting Pittsburgh into a city and body corporate. In 1819 the Monongahela bridge was built, and the Saint Clair Street bridge over the Allegheny.

From 1817 to 1825 the city was at a standstill, from effects produced by the termination of the war of 1812. In 1817 many factories stopped, and until 1821 there was a continual downward tendency in all business and property. In 1821 the distress appeared to have reached its height; manufactories, trade, and industry were all prostrated. In May of that year the price of flour was \$1 per barrel; boards were \$2 per 1,000 feet; whisky, 15 cents a gallon; sheep and calves, \$1 per head. It required a bushel and a half of wheat to buy a pound of coffee, and 12 barrels of flour to purchase a yard of superfine broadcloth. In 1825 and 1826 the city began to rally, and in 1830 she was again prospering. In 1837 she was, with other cities, retarded by the subsidence of the land-speculation fever and the panic. In common with most of the banks of the country the Bank of Pittsburgh suspended specie payment in this crisis, but it was at the general request of citizens expressed at a large public meeting, and the suspension was only brief. In the general suspensions of 1839 the bank continued to pay specie on all its liabilities, and in the suspension of 1841 by the banks of the whole country south and west of New York, this bank continued as before to pay in specie. On the 10th of April, 1845, the city was visited by a serious disaster

in the shape of "the great fire", in which a territory of 56 acres was burnt over. The aggregate loss of property amounted to over \$5,000,000, and many families were made homeless. The Pennsylvania and Ohio railroad was begun in 1848.

The close proximity of Pittsburgh to the border-line of the seceding states in the civil war necessarily brought her at once into the vortex of the active movements of the hour, while her admirable supply of so many of the crude materials from which munitions of war were formed, and her facilities for manufacturing, converted her workshops into so many divisions of a huge arsenal, in which nearly all the equipments of troops and implements of offense and defense were made. For quite the entire period of the war Pittsburgh was literally a camp and an arsenal. Her founderies, her rolling-mills, her tanneries, her harness and saddle factories, her clothing manufactories, her wagon factories, were all active with the production of shot and shell, of cannon, of armor-plates, of wagons, of artillery harness and infantry and cavalry accouterments, and other munitions of warfare.

The importance of the forks of the Ohio as a military position has already been noticed in connection with the early military history of the place. A commission of United States engineers, which made an examination on this point in June, 1861, pronounced it the strongest position they knew in the country; its strategic power, as severing the West from the East, and thus rendering difficult the movement of troops between the two sections, made it important for the Confederates to secure the city if possible. Success therein might have caused, perhaps, a different ending of the civil war. It has been supposed by some that this was the objective point of General Lee's invasion of the north in June, 1863. At any rate, the citizens of Pittsburgh thought as much at the time. When, on the evening of June 14, word came that the city was in imminent danger from the advancing southern troops, a meeting of the more prominent manufacturers and other citizens was held, and it was determined that the work-shops should be closed and the men employed throwing up earthworks around the city, under charge of the government engineers who had been sent from Washington to lay out the defenses. This was done, and for two weeks' time Pittsburgh bore much the aspect of a beleaguered city. During that time thousands of men were busy constructing rifle-pits and earthworks for the mounting of cannon. From fifteen to sixteen thousand men were at times laboring in the intrenchments. Had the result at Gettysburg been different it is probable that Pittsburgh would have been attacked. The defeat of Lee alone prevented the southern troops from putting to the test these fortifications of two weeks' growth. Throughout the rest of the war Pittsburgh remained undisturbed by the military movements. She continued to furnish soldiers, to nurse the sick and wounded, to supply the camps, and to manufacture munitions of naval and land warfare.

The next chapter in Pittsburgh's history is likewise of a warlike nature, but of a far different sort from the preceding one. It is the story of the most grievous conflict between employers and employed, and the most extensive, if not the most disastrous, riots which the country has ever witnessed. The time was the months of July and August, 1877. The beginning of the troubles was the strike of the train-hands on the Baltimore and Ohio railroad, begun on the 14th of July. It spread over nearly all of the northern roads between the Mississippi and New England. This rising was the signal for a general outbreak of the laboring classes in the large cities and manufacturing towns of the West, and in the widespread riotous demonstrations that followed, Pittsburgh was most unhappily conspicuous. Although started by railroad strikers, the movement quickly involved the factory hands, miners, etc., whose wages were oppressively low; the communistic element, the tramps, and, above all, the dangerous classes—the unproductive, the untaught and unprincipled multitude which congregates in all large towns, thousands in number, from which come most of the thieves and paupers. The latter element was most notoriously the leading one during the Sunday of robbing and arson in Pittsburgh.

On the 19th of July, in the morning, a strike was declared by the conductors and brakemen on the Pennsylvania railroad at Pittsburgh, all freight trains were stopped, and by night the strikers and their abettors had congregated to the number of 1,400 in the freight- and stock-yards. The next day freight traffic ceased throughout the line. The strikers at Pittsburgh defied the civil authorities, and the militia of Philadelphia were ordered to the spot. On the 21st the sixth division of the Pennsylvania state guard arrived. At 5 o'clock p. m. they tried to clear the Twenty-third Street crossing, and replied to the missiles of the rioters by several volleys of musketry. That aroused the fiercest passions of the mob, who soon returned to the attack with fire-arms and ordnance. They repeatedly assailed the round-house, in which the military had taken their position, but were driven back with musket-shots. Firing was kept up on both sides. Finding themselves unable to dislodge the soldiers by assault, the rioters determined to set fire to the round-house and roast them out. Their attempts being fruitless at first, in their rage they applied the torch indiscriminately to the freight-wagons and other railroad property. At 5 a. m. the militia succeeded in getting out of the round-house and across the Allegheny river, and there disbanded.

Meantime an immense mob had gathered round the railway buildings, setting fire to buildings and trains that were yet untouched by the conflagration. Before 7 o'clock all the buildings of the terminus were in a mass of flames. Many of the freight-cars were broken open and pillaged before being burnt. The plundering was carried on in the most barefaced, almost business-like, manner. During the whole day the incendiarism continued. All the railroad buildings in the city, together with a number of private structures, were consumed. The number of freight-cars burned was about 2,000. The direct loss of railway property was estimated at from \$8,000,000 to \$10,000,000.

The citizens of Pittsburgh beheld the excesses of the mob on Sunday apparently with indifference; but when, on the evening of that day, the rioters began to break into private buildings and search liquor-stores and cigar-shops, the citizens and police began to take vigorous steps to arrest the disorder. On the next morning citizens' companies were organized and armed for protection, but by this time the fury of the mob had entirely spent itself.

In Pittsburgh, as in Baltimore, all the most violent spirits of the mob were other laboring men and not the railroad strikers, while the worst excesses were committed by the low characters who did not belong to the mechanic class—tramps, thieves, and loafers. In both cities the sympathies of the majority of the people were on the side of the strikers, and bitter sentiments against the military prevailed. In the Pittsburgh riot about 25 men were killed, and many more were wounded.

The Pennsylvania railroad was in use up to the 26th only between New York and Philadelphia. Governor Hartranft, upon his return from the West on that day, adopted vigorous measures to break the blockade, and upon his threatening a sharp use of the bayonet and musket, and passing over the road with a detachment of state troops, the strikers came to terms on Friday, the 27th. On the Pittsburgh and Fort Wayne routes the strikers carried things with a high hand, until, on the 2d of August, they made up their minds to resume work.

During the present century Pittsburgh has grown considerably in extent of territory. In 1816 a town called Bayardstown was laid out immediately adjoining it on the northeast, which many years afterward was added to the city as the 5th ward. The old city consisted of but 4 wards. Next, the city line was extended over the large hills immediately east of the city, increasing the number of wards to 12. In 1867 the whole territory between the two rivers from points on each about 7 miles above their junction was added, increasing the number of wards to 23. On the 29th of March, 1872, the consolidation of the south side with Pittsburgh was effected by an act of the assembly, the bill receiving the sanction of the governor on the 2d of April following. The south side included 11 boroughs, having a population of 35,000. The last addition took place in 1874, when the township of Wilkins, adjoining the city on the east, was incorporated with it.

There are many towns whose growth seems to have been more rapid than that of Pittsburgh, and probably for a short period of years has been so; yet, viewing her growth for a series of years, we find that there has been in the increase of population a steady and creditable progress. In 1800 her population was .004 per cent. of that of the West and South; in 1810, .0045 per cent.; in 1820, not quite .003 per cent., the business of the city being at that time in a ruined condition in consequence of the reaction in the prices and activities of the war of 1812, under which Pittsburgh was very prosperous; in 1830, over .005 per cent.; in 1840, .0075 per cent.; in 1850, .0095 per cent.; in 1860, nearly .011 per cent.; in 1870, nearly .014 per cent. This steady increase of population during a period of seven decades, through the disasters of the peace of 1815, the bankruptcies of 1837, the great fire of 1845, the monetary troubles of 1842, the local panic of 1854, the national panic of 1857, and the depressions of 1860-'61—from the outbreak of the civil war—indicates clearly that, although in each decade depressing periods of business and stagnations of commerce similar to that of 1873, 1874, and 1875 have occurred, yet the city as a whole has continued to increase in population, and consequently in business, however individuals may have, in the wreck and crash of private fortunes and individual interests, sunk and been forgotten.

In the individual wealth of its inhabitants Pittsburgh would probably compare unfavorably with the larger eastern cities in respect to the number of persons usually termed millionaires, taking that word to imply the possession of \$5,000,000 or over. Yet in point of persons who may be considered independent and those possessing handsome fortunes and competencies, there are few cities that, for the same population, can compare favorably with Pittsburgh.

PITTSBURGH IN 1880.

The following statistical accounts will indicate the present condition of Pittsburgh. Since the officers of the city furnished no information, the census officials were forced to compile these accounts from reports of the board of health, controller's reports, and miscellaneous sources. Such being the only materials at hand, the accounts are necessarily disjointed and often fragmentary, since on certain points the information secured was very full, and on others it was very scanty.

LOCATION.

Pittsburgh lies in latitude 40° 27' north, in longitude 79° 59' west from Greenwich. Its elevation above the sea-level is at an average of about 800 feet, and above the level of lake Erie of about 180 feet. It is 354 miles by rail west of Philadelphia and about 40 miles east of the Ohio state line.

Located at the headwaters of the Ohio at the junction of the Allegheny and Monongahela rivers, Pittsburgh commands an inland navigation of many thousands of miles. The Monongahela river proper is formed by the junction of the Tygart's Valley and West Fork rivers, which unite about 1 mile south of the town of Fairmount, West Virginia. The Tygart's Valley enters from the east, and is the parent stream, being much the larger of the two. Its length is 135 miles, and the distance from the junction to Pittsburgh is 135 miles, making the total

length of the river, by the meanderings of the stream, 265 miles. The aggregate area drained by the Monongahela is estimated at 7,000 square miles. Its two most important tributaries are the Cheat, which enters the main stream just north of the Pennsylvania and West Virginia boundary, and the Youghiogheny, which enters at McKeesport, 15 miles above Pittsburgh. Both come from the mountains, and are perennial and powerful sources of supply. The water of all these streams is clear and sparkling, but loses its transparency as soon as it enters the main trough of the valley, probably because the main stream has much less fall than the tributaries. For the 87 miles above Pittsburgh the descent is only about 1 foot per mile. In this pool the water moves more slowly, particularly since the construction of the dams (six in number). By these dams the river has been slack-watered up to the Virginia line, and steamboats ply on it during the whole year, except in seasons of extreme cold. The low-water discharge of the Monongahela past Pittsburgh, there is reason to believe, seldom gets below 25,000 cubic feet per minute. The high-water discharge can only be approximately determined. It is thought that in the great flood of 1832 it was fully two thousand times the usual low-water discharge of the river. The bed of the river is, as a rule, composed of fine gravel and sand, with occasional rocky places.

The Allegheny river rises in Potter county, in northern Pennsylvania, flows circuitously through New York, and then returns to Pennsylvania to meet the Monongahela at Pittsburgh. It is a clear, sparkling stream, abounding with rapids, and flowing over a bed of rocks, pebbles, and boulders. For 200 miles above Pittsburgh its average descent is about 2.5 feet to the mile. For that distance it is navigable for small steamers during the greater part of the year. In the autumn of 1879 the Allegheny was lower, it is generally thought, than it was ever before known to be, but even then its discharge past Pittsburgh was 110,000 cubic feet per minute, or about five times the discharge of the Monongahela. According to the report of the late Major Sanders, United States Army, in 1838 the Allegheny became so low as to pass only 80,000 cubic feet per minute.

The Ohio is navigable for large steamboats from six to eight months in the year, according to the rainfall. Distant only from 300 to 400 miles from three of the most important seaboard cities of the Union, about 150 miles from the great chain of inland seas, and commanding by her rivers another and easy access to the ocean and foreign nations, Pittsburgh has the choice of three avenues whereby she may export beyond the borders of the United States her manufactures or receive the products of other countries. Situated in the heart of the bituminous coal formation of the Appalachian field, and equally advantageously located as to the deposits of iron-ore, her geographical relations to the staple materials of Pennsylvania, as well as of the Union, are unequalled. By means of the vast river system of the Mississippi basin, boats from Pittsburgh can reach 18 states and 2 territories, and not only reach their border counties, but their interior as well. Of this extent of country the Ohio river passes along the borders of 6 states, watering the shores of 71 counties; and in all Pittsburgh has direct water communication with 377 counties.

The only drawback to the value of this immense river system has been the lack of sufficient water in the rivers at certain seasons of the year, thus making their navigation by large boats impossible during a few months out of every twelve. To obviate this a scheme has been devised for the improvement of the Ohio, which, if fully carried out, will be of immense importance to Pittsburgh. This scheme involves the construction of dams at such intervals along a great part of the course of the river as shall preserve a uniform stage of water, and thus admit of navigation during the entire year. The Monongahela, which has been navigable for more than a third of a century by means of only a system of locks and dams, is an evidence in a comparatively small way of the usefulness of such a procedure.

RAILROAD COMMUNICATIONS.

The Pennsylvania railroad connects Pittsburgh with Philadelphia and the east; a branch of it—the Pittsburgh, Virginia and Charleston—whose projected point of completion is indicated in its title, at present runs from Pittsburgh to Belle Vernon. The Pittsburgh division of the Baltimore and Ohio railroad connects with the trunk line at Cumberland, giving connection with Baltimore, Parkersburg, Washington, Grafton, and the large cities both east and west. The Allegheny Valley railroad runs from Pittsburgh to Bradford, Buffalo, and Driftwood, reaching the oil regions and the central trunk lines of New York. The Pittsburgh, Fort Wayne, and Chicago railway connects the points named in the title, and gives communication with Ashtabula by way of Lawrence Junction. At various points it taps the network of railways which ramify over the whole West. The Pittsburgh, Cincinnati, and Saint Louis railway connects the places named, and also Columbus and Indianapolis. The Cleveland and Pittsburgh railroad connects the places named and Bellaire via Rochester. The Pittsburgh and Castle Shannon railroad connects the places named. The Pittsburgh Southern railway runs to Washington, Pennsylvania, and the Pittsburgh and Lake Erie railroad runs from Pittsburgh to Youngstown.

TRIBUTARY COUNTRY.

Allegheny county, in which Pittsburgh is situated, is the largest county as regards wealth and population in western Pennsylvania, and it is only second in importance to Philadelphia of all the counties of the State. Beyond this there are tributary to Pittsburgh all the counties and towns lying along the two rivers which here form the Ohio, and the various tributaries of the three, within a radius of 50 miles of the city. A few miles south of Pittsburgh the Youghiogheny river pours its waters into the Monongahela; a few miles northward the Kiskiminitas

bears to the Allegheny the drainage of an extensive valley, while a few miles westward the Beaver river, collecting its tribute from the vicinity of the lakes and from the fertile plains of eastern Ohio, aids to swell the current of the beautiful river. Three miles below Pittsburgh, on the south side of the Ohio, enters Chartier's creek, a small but valuable stream, which passes through a region of unsurpassed fertility, abounding in coal and inhabited by a prosperous people. To the west of the city the country is very fertile, well settled, and highly cultivated.

It is to her location in the bituminous coal-basin of Pennsylvania that Pittsburgh owes her character and importance as a manufacturing city. The bituminous coal-field lies principally west of the Alleghany mountains, and extends from Towanda on the northeast to the southwest angle of the state, a distance of 250 miles. Pittsburgh lies in the northwestern section of the great central bituminous coal-seam, commonly called "the great Pittsburgh seam". This seam is finely exposed at Pittsburgh and along the Ohio and Allegheny rivers; it also extends nearly the whole length of the Monongahela. It has been traced through Pennsylvania into Virginia, and also into Ohio, and is from 12 to 14 feet thick at the southwestern border, from 6 to 8 feet at Pittsburgh, and about 5 feet still farther westward in Ohio. Of this seam, Mr. Lyell, the eminent English geologist, says, in his *Travels in North America*:

I was truly astonished, now that I had entered the hydrographical basin of the Ohio, at beholding the richness of the seams of coal which appeared everywhere on the flanks of the hills and at the bottoms of the valleys, and which are accessible in a degree I never witnessed elsewhere. The time has not yet arrived when the full value of this inexhaustible supply of cheap fuel can be appreciated. * * * To properly estimate the natural advantages of such a region we must reflect how the three great navigable rivers, such as the Monongahela, Allegheny, and Ohio intersect it and lay open on their banks the level seams of coal.

Along the lines of the various railroads and rivers tributary to Pittsburgh are placed the mines which supply the bulk of all the bituminous coal consumed in the United States. In the first bituminous coal district of Pennsylvania, embracing the counties of Allegheny, Washington, Greene, Fayette, Westmoreland, Somerset, and Bedford, and lying to the south, southeast, and southwest of Pittsburgh, there were, in the year 1878, 244 bituminous coal mines, the aggregate product of which was, as closely estimated by the inspector from satisfactory data, nut coal and slack not included, 9,372,881 tons of 2,000 pounds each. To attain this result was required the labor of over 18,000 operatives directly, besides a number impossible to estimate in the immediate contingent occupations of shipping and maintaining the necessary roads, machinery, barges, steamers, and general appliances. The second district embraces those counties situated between lake Erie and the New York line on the north, and Allegheny and Westmoreland counties on the south, and is also a territory over which extends the influence of Pittsburgh, its capital, labor, and commerce. In this district are 58 coal-mines, nearly half of which are located in Clarion and Mercer counties. In the operations for which these mines form a basis are employed over 2,000 workers in the various departments, the production in 1878 being about 675,000 tons of coal, exclusive of slack and nut. The total production of coal in the United States during the year 1878 was 49,130,584 tons, of which Pennsylvania supplied 17,605,262 tons of anthracite and 13,500,000 tons of bituminous, or over 63 per cent. of all the coal mined in the United States; the soft coal produced in the Pittsburgh district representing not less than 50 per cent. of all the bituminous coal produced in the country.

Extensive as is the field of bituminous coal in Pennsylvania, and incalculably valuable as it is to Pittsburgh as a manufacturing city, not less valuable to her is the anthracite deposit of coal when viewed in connection with the consumption of iron by her manufactories, and not less to the iron deposits which surround this locality than to her coal is Pittsburgh indebted for her past and dependent for her future.

Throughout the counties embraced in the bituminous coal regions are to be found extensive beds of iron ore, and equally large deposits in the counties east of and lying along the bases of the Alleghany mountains. The Allegheny river affords a cheap channel for the supply of iron ore from the counties lying upon that river; the Monongahela river and Pittsburgh and Connellsville railroad for the iron from the neighborhood of the Youghiogheny and Cheat rivers, and the Pennsylvania Central railroad for the metal of the interior and mountain counties. The oil-wells of the region north of Pittsburgh should not be forgotten in summing up the resources of her tributary country. They have made her the center of the oil trade of the world.

TOPOGRAPHY, ETC.

The Ohio is formed by the junction of two rivers as unlike as two rivers can be. The northern parent, named Allegheny, which signifies "clear water", is a rapid, transparent stream, coming down directly from the north; while the southern river, the Monongahela, which signifies "falling-in banks", comes even more directly from the south, its slow, yellow tide augmented by the waters of the Youghiogheny. Between the two rivers, beginning at their confluence and running east, lies the main portion of the city of Pittsburgh. The city extends along both streams a distance of 8 or 9 miles, a direct line from river to river making the eastern boundary. Going directly east from the junction of the rivers the ground rises gradually until an elevation of several hundred feet above high-water mark is reached.

The western portion of the city is densely built, and from the contracted ideas of the early settlers, each of whom desired to live within range of the fort, the streets have not that spacious breadth so characteristic of prairie towns. For this reason, as well as to avoid an atmosphere never entirely free from smoke, this part of the city

is devoted almost exclusively to business purposes, nearly all whose means or occupation permit residing at the east end, in Allegheny, or in some railway suburb. On the south side of the Monongahela, at the base of the tremendous bluffs that confront the river, are thickly settled manufacturing districts. There, strung along to the southeast, mile after mile, are countless manufactories for iron, steel, and glass. The noise of their machinery never ceases, and dense volumes of smoke incessantly rise from their chimneys. On the west side of the Allegheny river the city of Allegheny stretches back over a rising plain for more than a mile to the hills that crown the distance. Here the stranger will find himself outside of the din of machinery and the blur of smoke.

Pittsburgh proper (that part known as the old city) and the south side are the localities where the fires of the factories glow and the black smoke rolls up. This is the part most seen by travelers, and it has its beauties. As Constance Fennimore Woolson well describes it in *Picturesque America*—

It has the picturesque aspect of a volcano; a cloud of smoke rests over it, and at night it is illuminated by the glow and the flash of the iron-mills filling its valley and stretching up the hill-sides, resting not day or night, but ever ceaselessly gleaming, smoking, roaring. Looking down on Pittsburgh at night from the summit of its surrounding hills, the city, with its red fires and smoke, seems satanic. Quiet streets there are and pleasant residences. * * * But it is the smoke and the fire of Pittsburgh that give it its character.

Anthony Trollope wrote: "It is the blackest place I ever saw, but its very blackness is picturesque." Parton said: "It is all hell with the lid taken off."

The traveler, simply passing through Pittsburgh, sees things under such a gloom of smoke that the beauty of the city outside of its business area is generally unknown. Approaching Pittsburgh from the east on the Pennsylvania railroad, he hardly suspects that the beautiful park-like country through which he is passing, dotted thick with attractive residences, picturesque grounds, and broad paved roads, over which the bright sunshine showers down and the clear blue skies bend, is part of the famous "smoky city", a portion of the great metal factory of the United States. Just as some chance remark conveys the idea that for nearly twenty minutes he has been riding at rapid railroad speed through miles of Pittsburgh's fairest wards, he enters upon a region of smoke and fire, and for 2 miles or more he rides under canopies of smoke, past furnace and mill, coke-ovens and factories, to be, after a brief pause in the spacious Union depot of the Pennsylvania railroad, drawn into the bowels of the earth, to travel entirely from one side of the city to the other under its houses and streets. Emerging on the Monongahela River side of the city, he still pursues his course amid fire and smoke, past glass-houses, steel-works, rolling-mills, and founderies for some 2 or 3 miles, again to pass into a land of sunshine and clear skies, where the houses of Pittsburgh merchants and manufacturers dot the landscape and beautify the scenery.

Pittsburgh, outside of the manufacturing districts, is indeed a beautiful place. Sir Henry Holland, who was of the Prince of Wales' suite when he visited Pittsburgh, remarked to Josiah King, esq., one of the committee of reception, that he had in 1845 spent a week in an equestrian exploration of the suburbs of Pittsburgh; that he had traveled through all the degrees of the earth's longitude, and had not elsewhere found any scenery so diversified, picturesque, and beautiful as that around Pittsburgh, and likened it to a vast panorama, from which, as he rode along, the curtain was dropping behind and rising before him, revealing new beauties continually.

These remarks are as true to-day as they were thirty-five years ago. The surroundings of the city are exceedingly picturesque, and in the city itself the steep hills, overhanging banks, deep ravines, and broken surfaces give a charm to the spot that the pen can not portray.

The rocks above which Pittsburgh lies belong to the Carboniferous system. The rocks forming this system are conglomerates, shales, and sandstones, more rarely limestones. They occur in various alternations, with occasionally a bed of coal between them. All the coal-beds taken together make not more than one-fiftieth of the whole thickness. Below the 8-foot coal-vein underlying Pittsburgh there are some eight or ten layers of limestone from 1 to 2 feet thick, separated from each other by layers of dark-colored shale, the whole forming a bed of 25 feet in thickness. The shale or sandstone upon which this bed rests is about 35 feet thick, and in some places is composed almost wholly of shale, while in other localities the shale passes into very thin layers, and the sandstone expands into blocks sufficiently thick for building-purposes. Below this we find a bed of limestone 4 feet thick, separated from another 2-foot vein by 12 feet of yellowish shale. Below this is a last layer of limestone 3 feet in thickness, hard, compact, and of a yellowish color. This rests on a stratum of shale marked with iron, sometimes passing into a coarse slaty sandstone, the whole 10 or 12 feet thick. Then follows a red or mottled shale, 12 feet in thickness, sometimes wanting, but generally exposed around Pittsburgh. All the layers just described which lie below the coal have as yet been of no great value to Pittsburgh. The iron is a mere trace, the shale of no practical value, and the limestone is so thin as to be of little importance as a source of lime for masonry or agriculture.

The next layer is one of considerable value, being a sandstone 75 or 80 feet in thickness, and extensively used for building purposes. It varies in color, quality, and appearance, being generally of a gray color, sometimes very micaceous, with the wave and ripple marks well shown. It also varies much in durability, sometimes remaining unchanged for years, but often weathering badly and crumbling on exposure.

At the base of the hills surrounding the city are found 100 feet of olive or buff-colored shale, which seems universal throughout the country. The lower part of this bed is easily decomposed, weathering into a stiff clay, while the upper part is of a harder structure, often containing thick layers of sandstone, with, in some localities, fine impressions of plants. This rock is sometimes divided very regularly by numerous straight vertical planes of

fracture, parallel to one another, separating it into large angular blocks, giving to the rocks where it occurs a front like a fortification. On a level with the river, but generally concealed by detritus, is a layer of black slate 2 feet in thickness, resting on a bed of coal about 1 foot thick. Where it outcrops along Butcher's run, on each side of the Perrysville road, it is a good bituminous coal.

The sluggish Monongahela brings down from the soft shales and clays and limestones over which it passes only fine sediment, while the force of the Allegheny is sufficient to move sand, gravel, and fragments of rocks of considerable size. It also happens that the Allegheny and Monongahela rivers strike the point at different angles, and that the space between them upon which Pittsburgh stands was formed wholly from material brought by the Allegheny from the more northern part of the state. The larger part both of Pittsburgh and of Allegheny is built on plains made up of porous layers of angular and rounded sand and gravel, and not upon a solid impervious stratum of clay such as the Monongahela would have produced. This seemingly slight difference in the direction of these two rivers, and the difference in the character of their sediment, has formed in no slight manner the hygienic condition of the city. The early settlers built upon the plain, 40 feet above low-water mark. The porous nature of the soil and the surface drainage was then sufficient, but the present size of the city demands careful and systematic sewerage if it would escape those zymotic diseases which result from the neglect of the most simple hygienic laws. With respect to drainage, few cities are more favored by nature than this one. The hill-side wards require no blasting for sewer-pipes, the rock being easily removed with the pick, while the soil of the wards of the old city can be easily excavated with the spade.

The south-side wards occupy a crescent-shaped piece of alluvial ground, or river-bottom, over 2 miles long, and measuring at the widest part about half a mile. Considering the fact that so much of this area near the river, having Carson street for its axis, is higher than that back toward the hill, it is natural to infer that at one period, not necessarily remote in a geological sense, the river passed at the base of the hill, and that Carson street, 60 feet above low-water mark, indicates the center of an ancient island. In the same way the Allegheny river at one time passed to the right of Seminary hill, its gravelly bottom forming the plane on which the city of Allegheny now stands. The head of the Ohio was at one time at Hilldale cemetery, at another near Manchester, and at a still later date at Luke's run, at the base of Boyd's hill, a mile above its present position.

On the left side of the Monongahela, opposite "the Point", where the two rivers meet, Coal hill, or mount Washington, rises abruptly from the very brink of the river more than 400 feet. Tradition has it that the coal-vein in it was once on fire, but that was very many years ago, and certainly no such event has of late disturbed the subterranean arrangements of Pittsburgh. All along this side of the river, back of the alluvial ground mentioned, bluffs rise with considerable abruptness to an average height of 450 feet above low-water mark. Part of the bottom-land is known as the made-ground district. It covers an area of over 100 acres, and is, without question, the most unhealthful locality in the city. This is due to the fact that the made ground, covering it to a depth varying from 1 to 25 feet, is composed of material much of which, such as filthy ashes, garbage, and refuse of all kinds, forms a very objectionable subsoil upon which to build a city. The natural surface drainage has in some localities been seriously interfered with by the use of clay or other material impervious to water, in the grading of streets across original depressions of the surface, so that the streets are now acting as dams for the retention of large accumulations of subterranean water. These localities are numerous, and here the cellars are found to contain water.

CLIMATE.

Although nearly surrounded by hills more than 400 feet in height, the valleys of the Allegheny and the Ohio are open to free ventilation by the northeast and northwest winds. The summer winds from the south which visit other western cities from low and paludal grounds here descend upon the town from a terrace 450 feet high, after passing for a long distance over a well-drained, cultivated, broken, and mountainous region; the winds from the east and southeast come sweeping down from the salubrious elevations of the Alleghenies filled with the purity of their mountain atmosphere.

The greatest heats usually occur in July, and the extreme cold in January. The winter does not generally set in with severity until the latter part of December; and in the average of seasons the moderate temperatures of spring begin about the middle of February. Vegetation comes rapidly forward in the latter portion of March and April, but there is almost invariably frost during the first ten days of May; fires are not generally dispensed with, however, until the 1st of June. During the winter months the wind is generally from the northwest, and, during rain-storms and damp weather, from the northeast. In summer months the pleasant southwestern winds prevail, changing to southeasterly currents during rains.

Dr. William H. Denny, who contributes an article to Craig's *History of Pittsburgh* on the "Salubrity of Pittsburgh and vicinity", writes as follows:

Of all the great western towns Pittsburgh is the farthest removed from the baneful exhalations of the swampy borders of the Mississippi, and accordingly enjoys a greater exemption from those diseases which during the summer and autumn prevail even as high as Cincinnati. That exemption is supposed to be aided by an artificial cause. The combustion annually of 10,000,000 of bushels of bituminous coal fills the atmosphere with carbureted hydrogen, sulphurous gas, and the all-pervading impalpable dust of carbon. The smoke is thickest in the calm, cool, and foggy mornings of autumn. It is anti-miasmatic; and hence it is that formerly the natural ponds

and latterly the foul and stagnant artificial basins have never generated remittent or intermittent fevers. Dropsies, dysenteries, diarrheas, and cholera, diseases which are influenced by causes of malarious origin, have never prevailed to any extent. * * * It is not improbable that the presence of iodine in our peculiar atmosphere, so charged with particles of soot or some other unknown element in our smoke, has had a salutary effect, as well in preventing the disease of the typhoid gland as in arresting the tendency to the formation of tubercles in the lungs, and thus accounts for the disappearance of goiter and the comparative rarity of phthisis pulmonalis. Strangers with weak lungs for a while find their lungs aggravated by the smoke; but nevertheless asthmatic patients have found relief in breathing it. In this account coal is our creditor in another way; its abundance, cheapness, and consequent general and profuse use by the poorest inhabitants is undoubtedly the cause of our superior healthfulness. The low fevers so prevalent in large cities among the poor during a hard winter, and the ague and fever so common in the eastern counties where wood is scarce, are here in a measure prevented by the universal practice of keeping good coal fires late in the spring and early in the autumn, and indeed in all seasons when the weather is damp or inclement. The prevailing complaints are those which characterize the healthiest situations of the same latitude elsewhere in America: in winter pneumonia and sore throat, and in summer bilious affections. In comparison with eastern cities, there is much less pulmonary consumption, less scrofula, and less disease of the skin. There is scarcely any fever and ague, and no yellow fever. In comparison with western cities, including Cincinnati, there is less bilious fever, less fever and ague, less cholera infantum, and far less malignant cholera. We are the intermediate link of disease as well as of commerce. We have less hepatic disease than the West and less pulmonary disease than the East.

The smoke that so constantly hangs over the main part of the city, according to the report of Dr. Meyers, formerly physician to the marine hospital in the city, is highly favorable in cases of lung and contagious diseases, owing to the carbon, sulphur, and iodine contained in it. But though it may have potent medicinal qualities, it is, to strangers at least, very disagreeable. There are some sections of the city, however, quite free from its annoyance.

The mean annual temperature is 52° Fahrenheit; the mean spring temperature, 50°; the mean summer temperature, 72°; the mean autumn temperature, 54°; and the mean winter temperature, 32°. At the Allegheny arsenal, at an altitude of 704 feet above the level of the sea, the highest temperature recorded between January, 1836, and April, 1867, was in July, 1854, when the mercury reached 100°; the lowest was in February, 1856, when it fell to -22°. The following table will show the weather changes that took place in the year 1879:

Months.	TEMPERATURE.				RAINFALL.		READING OF BAROMETER.				Mean relative humidity in per cent.	Prevailing direction of the wind.
	Mean.	Highest.	Lowest.	Range.	Days.	Inches.	Mean.	Highest.	Lowest.	Range.		
Year.....	52.4	99	-11.5	110.5	109	36.02	30.05	30.74	29.33	1.41	67.99	
January.....	26.7	54	-11.5	65.5	10	1.54	30.12	30.54	29.53	1.01	71.09	W.
February.....	27.7	54	4.0	50.0	20	1.74	30.09	30.68	29.45	1.23	72.80	NW.
March.....	40.8	77	19.0	58.0	19	2.99	30.08	30.54	29.55	0.99	67.40	NW.
April.....	48.5	82	23.0	59.0	15	1.63	29.96	30.51	29.33	1.18	62.40	NW.
May.....	63.9	93	33.0	60.0	11	1.20	30.03	30.45	29.63	0.82	55.90	NW.
June.....	69.5	94	30.0	64.0	15	4.56	29.97	30.29	29.43	0.86	63.80	SW.
July.....	75.6	99	56.0	43.0	14	7.78	29.94	30.25	29.63	0.62	66.60	SW.
August.....	71.2	93	50.0	43.0	9	4.56	29.95	30.16	29.64	0.52	70.80	NW.
September.....	61.7	90	35.0	55.0	9	1.01	30.10	30.40	29.58	0.82	71.10	NW.
October.....	60.7	91	20.0	62.0	9	0.65	30.14	30.74	29.59	1.15	68.00	NW.
November.....	43.2	70	16.0	60.0	20	3.36	30.13	30.62	29.57	1.05	60.70	SW.
December.....	38.9	61	5.5	56.5	18	5.00	30.12	30.60	29.58	1.02	76.30	W.

STREETS.

In the annual report of the board of health for the year 1879, four out of the five sanitary inspectors make mention of the streets in their report. The inspector in the first district says:

I have but little faith in the contract system of cleaning streets. When in the commissioner's hands a word to him was sufficient, but the contractor pays no attention to the inspector, and his men shirk their duty at all times.

As to the third district, it is reported:

The wooden pavements are fast decaying, particularly on Penn and Collins avenues, and during warm weather there is a very foul stench arising from them. The Collins Avenue pavement is too rotten to be repaired, and I would recommend that it be at once taken up and the clay road used until the property-owners are able and willing to lay some more substantial and durable pavement than pine blocks.

In the fourth district—

* * * The paved streets and alleys are in good condition, with but two exceptions, Sarah and Jane streets, where the wooden-block pavement has been laid. These streets are at present in the same filthy condition that Wood, Diamond, and other streets of their class (in the old city) were previous to their having been repaved. At present there is but slight hope of their being remedied other than by occasional repairing. The gutters are in a much better condition than for several years past; many of the badly constructed, carelessly graded, and wornout gutters, which, together with misplaced curbstones, were the cause of serious nuisance, have been regraded and repaved. The gutters on those streets and alleys that are neither graded nor paved were but irregular courses and in a filthy condition. A majority of these, I am happy to say, have been improved by box-drains.

In the fifth district—

There are many unpaved streets, which cause much complaint from defective drainage. There have been some improvements on some of the streets by putting in box-drains to carry off the surface-water.

Mr. T. P. Roberts, C. E., in a report to a special committee of the board of health, suggests to the board the expediency of condemning cross-braces or flumes of wooden conduits. These wooden troughs or "gutters" are very common in the upper part of the city. His complaint of them is that as now made the brace catches large floating objects, and makes it difficult to keep the troughs clean. He suggests, in order to obviate the objectionable top cross-brace, the employment of half-round iron strips nailed or screwed to the outside.

Many of the streets of the city are of very steep grade, and storms wash them severely. Pavements are quickly worn out by the immense amount of teaming carried on. Wooden pavements were tried at a comparatively early day, but have not been a marked success, owing to their lack of durability under the rough treatment to which they are exposed. In 1880 the city expended \$63,175 56 on streets and \$19,658 12 on roads. The city is divided into seven street districts, and there is one street commissioner to each district.

Pittsburgh is afflicted with a faulty system of collecting street assessments. The controller, in his report for 1880, speaks of it as follows:

A very serious evil, and one that has reached extraordinary proportions, resulting from the present mode of collecting the assessments for grading and paving, and for building sewers, calls for a prompt remedy. Hundreds of thousands of dollars have been paid out of the city treasury, in various ways, for this class of items, which could be readily avoided if the law should be so changed that the contractor instead of the corporation should have the power to collect, giving him the identical powers for collecting now possessed by the city, making it a condition of the contract that he shall give the city an acquittance of his claim, upon the city engineer handing over the assessment list, when approved by the councils. Under this plan such cases as Locust street, which has cost tax-payers over \$70,000, instead of the abutters, would entirely disappear. * * * The adoption of this scheme would relieve the office of the city attorney of near one-half of its work, and reduce the liability of the city to a minimum.

According to a semi-humorous article in the *Pittsburgh Dispatch* of October 29, 1879, horse-railroads are numerous in Pittsburgh: "It has the bob-tailed and the bell-punch varieties, but it sighs for an elevated railway that shall afford speedy transit." One of the items in the list of revenue receipts of the city for 1880 is "Citizens' Passenger Railway Company, \$4,374 46".

WATER-WORKS.

Water was introduced in 1824, the supply being taken from the Allegheny river about 1 mile from its mouth. Water was pumped to a reservoir of 7,500,000 gallons capacity on Bedford cove, whence three engines pumped it to a basin of 3,000,000 gallons capacity, now known as the old high-service. The old pumping machinery was used until worn out.

The new works are located on the Allegheny river, 10 miles from its mouth. Four horizontal engines are used to drive the pumps, designed by Mr. Joseph P. Lowry, of the Pittsburgh water-works. They are of peculiar pattern, and said to be the largest horizontal pumping-engines in this country. The steam-cylinders are horizontal, the high-pressure is 64 inches and the low-pressure 106 inches in diameter, stroke 14 feet. The pumps stand vertical and work in a pit. A triangular working-beam has one arm connected with the steam-piston, one with the pump-rod, and the other carries a heavy counterbalancing weight. The cost of the four engines is about \$750,000, and they have required expensive repairs. They are operated alternately, two at a time, and are run from ten to twenty-four hours a day at a rate of 7 to 7½ strokes per minute. Water-pressure, 165 pounds per square inch.

Water is pumped from the works to the Highland reservoir, 365 feet high and 3,840 feet diameter. The force-main is of cast iron, 50 inches in diameter; the capacity of the reservoir is 117,651,000 gallons.

From this reservoir a pumping-engine of 1,500,000 gallons capacity, taken from the old Bedford Avenue works, is used to pump water to the high-service reservoir on Herron line, 275 feet high. The capacity of this high-service reservoir is rated at 10,000,000 gallons.

There are 113 miles of distribution mains, from 30 to 4 inches in diameter, made of cast iron. The daily consumption of water is 16,000,000 gallons. The cost of the new works is about \$5,000,000. The cost of maintenance and repairs in 1880 was \$130,000. From 1872 to 1879 the cost was \$792,190, and the receipts \$2,117,450.

Direct-pressure works erected in 1870 at Forty-fifth street, consisting of three engines, are now abandoned, as the new works have rendered them unnecessary.

The works belong to the city.

According to the report of Mr. T. P. Roberts, civil engineer, mentioned above, the south side is supplied with water by a private company, the Monongahela Water Company. Their works were built in 1864, and are situated at the foot of Thirtieth street. When built they were close to the shore, but owing to the construction of an embankment they are now left in a recess 300 feet back from running water, and the influent pipes hardly reach the current. The pipes should be extended at least 175 feet farther into the river. No details were given about the works themselves.

The article in the *Dispatch* previously quoted also says: "Pittsburgh is blessed with two competing gas-works, which make decent efforts to keep the price and quality down. The controller's report shows that the city owns a gas franchise of 12,500,000 feet of gas from the Pittsburgh Gas Company, 2,559 gas-lamps and posts. In 1880 the city expended \$47,199 26 for public light."

PUBLIC BUILDINGS.

The city hall occupies a lot 120 by 120 feet on Smithfield street. Architecturally the building is one of the most handsome in Pittsburgh; constructed of solid white sandstone, at a cost of \$700,000, every convenience and modern appliance was introduced necessary to make it complete in all respects. The city owns 8 police-stations, 2 of which are two-story, and the rest one-story brick buildings. The city poor-farm, situated in Mifflin township, covers 149 acres; the buildings are of brick, and consist of an almshouse, insane asylum, laundry and bake-house, etc. The city hospital is in the 13th ward, and is a one-story frame building, with a dwelling and stable attached. No municipal buildings are used for county purposes.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Second Ward Park is a lot 30 by 350 feet on Second avenue, between Grant and Ross streets; in the 12th ward a lot 480 by 100 feet on Liberty avenue, between Twenty-ninth and Thirtieth streets (*Snyder's Square*), is used for park purposes.

The parks of Pittsburgh are somewhat sarcastically spoken of by the writer in the *Dispatch*, as follows:

Oh, how this pen burns to be at a picturesque description of the romantic Second Avenue park and the spacious lawn, interspersed with noble forest trees, before Municipal hall! Pittsburgh, it is true, has only these public grounds as breathing-places for the poor soot-and-sweat-begrimed laborer and his family, but could any thing more philanthropic or expansive be conjured?

PLACES OF AMUSEMENT.

No information upon this subject was furnished.

DRAINAGE.

There are 22½ miles of sewers, located principally on the low ground adjacent to the rivers into which they discharge. Rates of fall are usually very steep, seldom less than 2 feet per 100. Sewers are reported to be clear from sediment, except those in the ravines, where they are considerably obstructed by coarse *débris* washed in by storms. Sewers on the Allegheny side of the city are usually short and steep, extending only from the foot of the bluffs to the river, and drain but small areas. One on Tenth street and Seventh avenue extends up Webster street a considerable distance and affords an outlet for some sewers on the high ground in the northerly part of the 7th and 8th wards. That part of the city known as the Point, below Market street, drains to the Allegheny side through an outlet-sewer in Fourth street. There are nineteen or more outlet-sewers on this side of the city, some extending but a block or two, others extending to a considerable distance but draining only a narrow strip of land, as each street running toward the river has its own sewer flowing directly to it. The largest sewer in the city is in Thirty-third street and extends from Penn avenue to the river, 1,300 feet. It is more properly an outlet for a stream known as Liberty run than a sewer. It consists of side walls, an invert, and a semi-circular arch, and has a sectional area of 64 square feet.

On the Monongahela side there are not so many outlets. The one in Wood street is the farthest down the stream and drains part of the 1st and 2d wards as far as Fifth avenue. The most extensive system of sewers leading to one outfall is that discharging at the railroad bridge at the foot of Troy street. The main line extends through Canal street, Fifth avenue, Dinwiddie and other streets, a length of about 1½ mile, and affords an outlet for what sewers there are in a large part of the 11th and 7th wards on very high ground, and most of the 6th ward.

The south side of the city, on the opposite bank of the Monongahela river, is quite different from the rest of Pittsburgh. A large part of the area consists of made ground, composed principally of ashes and cinders from the furnaces, building and cellar refuse, and some street-scrappings and garbage. Much of the ground is wet, and many cellars contain water during most of the year. There are two principal sewers traversing this district—one in Susan and Eighth streets; the other takes in the stream coming down the ravine to Twenty-first street, and discharges at the foot of Twentieth street just above dam No. 1. There are but few laterals connected with these main sewers. The district generally is badly drained. This part of the city forms the subject of an elaborate report published by the health department in 1879.

One of the greatest difficulties in the drainage of Pittsburgh is the steep grade of its streets, hill-sides, and ravines, washing down great quantities of gravel, stones, and *débris* in times of heavy rains. Another is the enormously heavy traffic upon its streets. The heavy trucks, carrying iron castings and machinery, sometimes drawn by eight or ten pairs of horses, cut through the pavements and break the manhole castings.

CEMETERIES.

The city owns the Lawrenceville graveyard, in the 17th ward; it contains 1.25 acre, and is on Main street, between Butler street and Penn avenue. No further information about cemeteries was furnished.

MARKETS.

On Market street there are two market-houses, each 3-story brick buildings 172.42 by 71 feet, on lots each 236 by 108. On Fifth avenue, corner of Miltenberger street, there is a 2-story brick market-house, on a lot 250 by 126.

On Forbes street, corner of Miltenberger, there is a lot of the same size, used for market purposes. The Ninth Ward market occupies two lots, one 63 by 100, running from Penn avenue to Spring alley, and the other, 68 by 100, from Liberty street to Spring alley. The Southside market is on Diamond square, in the borough of Birmingham; it is a 3-story brick building, 79 by 164 feet in size, on a lot 160 by 220 feet. All these markets are owned by the city. The revenue receipts from them in 1880 were: Diamond market, \$27,972 61; Ninth Ward market, \$324 36; Fifth Avenue market, \$1,136 15; Southside market, \$6,082 98.

SANITARY AUTHORITY—BOARD OF HEALTH.

The Pittsburgh board of health was created by an act of the assembly approved April 8, 1851. As at present constituted it consists of nine citizens, the only qualification required being that they shall be "taxable inhabitants of the city". They are elected by the select and common councils in joint meeting, and serve three years, one-third retiring each year. The officers of the board are a president, a secretary, and a treasurer, elected out of their own number by the members. The board sits upon its own adjournment as it deems necessary, but is obliged to meet at least three times a week between June 1 and October 1 of every year, and also when it is convened by order of the president or any two of the members. The duties of the board are to establish quarantine when necessary; to provide hospitals in case of an epidemic; to remove nuisances and their causes; make regulations concerning privies, the removal of human excreta, and the place of deposit of the same; to oversee the registration of births, marriages, and deaths; to elect a meat-inspector; and, in general, to take what measures may be necessary to preserve the health of the city.

In case of epidemics the board is (by the act of April, 1872) given unlimited power. In such a contingency the city council is to borrow enough money to cover the extraordinary expenditure, the amount borrowed being added to the next general levy. Quarantine may be established at any proper and convenient place beyond the limits of the city. On occasion a lazaretto may be erected or purchased, and likewise hospitals. For the latter purpose the board is empowered to appropriate such buildings or grounds as it may deem proper; a board of five arbitrators is to decide in case of disagreement as to rent or purchase money. There is a health officer, among whose duties is that of visiting persons infected with contagious diseases; he may remove them to the hospital if he deem it best. Houses containing small-pox patients are to be placarded. Physicians having patients laboring under infectious diseases must make report thereof to the board. Turning into the streets persons sick with contagious diseases is prohibited. The penalty for bringing to the city, or allowing to be brought in, or abetting the bringing in of, persons having contagious diseases is a fine of not less than \$5 nor more than \$100. The board may order all persons in the city to be vaccinated within such time as it shall prescribe, and persons refusing or neglecting to obey are subject to a fine of not less than \$5 nor more than \$25. The board must provide for the vaccination, at the expense of the city, of those unable to pay for it.

The city during 1879 was more free from infectious diseases than for some time past. But three cases of small-pox were reported during the year, a remarkable decrease in the prevalence of the disease as compared with the four preceding years, during which time 2,660 cases occurred, distributed as follows: 1875, 158; 1876, 421; 1877, 1,370; 1878, 711. This gratifying decrease is to be attributed to the general vaccination which prevailed during 1878. But the health officer thinks it not at all probable that the present immunity will continue. He thinks a compulsory vaccination law is necessary.

Such a provision already exists in the health laws of this city, but owing to its peculiar construction it is practically useless. * * * Although, as usual, a tender of gratuitous vaccination at this office daily was given, yet only 93 persons availed themselves of it during the past year.

Diphtheria, which prevailed so extensively in Pittsburgh during the three years previous, still continued with but little abatement during 1879. While but 679 cases of the disease were reported, yet the mortality from that source amounted to 354, from which it would appear that the ratio of mortality was exceedingly large and the disease usually fatal.

The true state of the case, however, is that but few of our physicians take the trouble to perform the important duty of reporting cases under their care; for what reason I [the health officer] am at a loss to know, and, the law relating to the subject being very vague and inoperative, we are at a loss to know how to compel its observance.

One of the most important duties of the board of health is to abate nuisances. When nuisances are found the health officer must serve notice on the owner or occupant of the lot where the nuisance exists, ordering its abatement. If this order is not obeyed the disobeying party is liable to a fine of not less than \$5 nor more than \$50 for every violation, and the health officer shall proceed at once to abate the nuisance. By the act of April, 1852, the expenses attending the removal of any nuisance shall be and remain a lien upon the premises from which such nuisance has been removed. The claim, however, must be filed within six months, and the lien shall not continue more than five years, unless legally revived. Any owner or occupant of any tallow-chandler's shop, soap factory, tannery, distillery, livery stable, cattle yard or shed, barn, packing-house, slaughter-house, or rendering-establishment, or any grounds or premises whatever, who allows them to become nauseous, foul, or offensive, is subject to a fine of not less than \$25 nor more than \$100, and to a like fine every day such nuisance shall continue after the first conviction.

The board is empowered to employ persons to assist in carrying out the provisions of the acts pertinent to its duties, and accordingly for a number of years a corps of sanitary inspectors has been employed. Last year (1879) the city was divided into 5 sanitary inspection districts, and one inspector was employed in each; 6,114 nuisances were visited and abated upon notice from the health office; 1,178 dead animals were removed. The more prevalent nuisances were as follows: Privy-wells full, 1,287; leaking, 176; foul, 164; garbage thrown on streets, 590; thrown on vacant lots, 478; filthy yards, 548; filthy alleys, 380; filthy gutters, 283; water in cellars, 186; filthy cellars, 164; manure-heaps removed, 173.

Among other nuisances were "filthy slaughter-houses, 75". As heretofore, these houses continued to be great sources of annoyance to persons residing in their vicinity and of complaint to the health office. Of the 150 or more located within the city limits the health officer says that but very few can be classed as any thing but nuisances. "Being, as a rule, constructed upon the most economical plans, and in the worst localities, it is almost impossible that they should be other than nuisances of the worst character. The adoption of the abattoir system is recommended."

By an act approved April 16, 1870, provision is made for the registration of births, marriages, and deaths. In case of death the attending physician, or in case of his refusal or neglect the health officer, or in case there was no attending physician, the coroner, shall issue a certificate setting forth all the particulars. No dead body can be removed or buried till this certificate is deposited in the health office and a burial permit procured therefrom. Persons practicing midwifery must keep a schedule of births and hand it in to the health office once every three months. Persons celebrating marriages must make similar reports. The penalty in the latter case is a fine of not less than \$5 nor more than \$20 for each offense. There seems to be no penalty in the case of births, and the registrar of vital statistics thinks it probable that at least 25 per cent. of the births which occur annually are unregistered, because of the carelessness of parents, physicians, and midwives. The registry of births, marriages, and deaths must be kept in separate books duly prepared for the purpose, and the records are admitted in the state courts as *prima facie* evidence.

The annexed statement exhibits the number of births, marriages, and deaths for the past seven years:

Year.	Births.	Marriages.	Deaths.
1873.....	5,175	1,782	3,519
1874.....	5,084	1,533	3,381
1875.....	4,930	1,192	2,957
1876.....	4,264	1,118	2,896
1877.....	4,215	1,110	3,408
1878.....	4,179	1,174	3,068
1879.....	4,449	1,290	2,923

During 1879 the meat-inspector condemned and confiscated 8,130 pounds of beef, 1,935 pounds of veal, 12,000 pounds of dressed poultry, and much other meat, game, etc. Among his duties is that of inspecting dairies and milk. The penalty for selling adulterated milk, or milk from diseased cows, is a fine of not less than \$5 nor more than \$50.

The official terms of the health officer, assistant health officers, physicians to the board of health, meat-inspector, and registration clerk are each three years. The reports of the different officers are combined in the report of the board of health, made annually to the select and common councils of the city. In the year 1879 the city paid to the board for its expenses \$12,000, and the receipts from fines were \$1,577 50. Suits for the recovery of fines are maintained by the board in its corporate capacity in the same manner as suits for the recovery of debts under \$100, the fine being under \$100; upon non-payment the amount is recovered by means of a *capias ad satisfaciendum*. In 1879 \$8,150 was paid out for salaries, \$1,658 48 for hospital expenses, \$1,000 for removing dead animals, and \$783 47 for miscellaneous expenses.

The sanitary condition of the city in the past year (1879), though not by any means up to the proper standard, compared favorably with that of former years. During 1879, 2,923 deaths occurred, a decrease as compared with those of the previous year of 145. Of this number, 761 (over one-fourth) were due to preventable causes, being 208 less than during 1878. Among the causes which should be specially mentioned as responsible for the large mortality are the unsatisfactory character of the sewerage in some portions of the city, and the want of a complete and systematic method for the removal of garbage, offal, etc.

MUNICIPAL CLEANSING.

Street-cleaning.—According to the reports of a sanitary inspector in the first district, already quoted from under the head of "Streets", the contract system is used in cleaning streets, and is not wholly satisfactory. No further mention of street-cleaning is found.

Removal of garbage and ashes.—By section 33 of an act approved April 12, 1872, the board of health is empowered to employ such scavengers and to make such rules for their conduct as may seem necessary. Sections 34 and 35

provide that the board shall leave notice at all houses in the city, stating when the scavengers will call to take away offal, garbage, swill, and, on improved streets, ashes. They require that this matter shall be kept in light tubs or suitable vessels until the scavenger calls for it, and they impose a penalty of \$5 for each day this matter shall remain on the premises after the scavenger has called for it. By section 5 of the same act it is made an offense, punishable by a fine of not more than \$25, to throw or suffer to be thrown into any street, alley, or lot, any putrid, unsound, or offensive matter whatever, or any thing likely to become offensive, and it is an equal offense to allow it to remain there after it has been deposited.

If we may take the testimony of the health officer as given in his report for 1879, these laws are utterly ineffectual. He attributes the large mortality in part to the want of a complete and systematic method for the removal of garbage, offal, etc. All the inspectors deplore the want of a practical system of scavenging. At present fully one-half the garbage, etc., is deposited upon the public streets, alleys, and vacant lots, under cover of darkness, and the balance, when mixed with the daily accumulation of ashes, is removed from the premises by some one of the many irresponsible persons engaged in the business, to a little less dangerous place in some street-fill or ravine where material is required to conform the locality to the grade of the surroundings. In the first sanitary inspection district there are many vacant lots, and they are the receptacles of all the garbage of the surrounding neighborhood. A special effort to stop this practice was made last year and was moderately successful. In the second and third districts many complaints were made about the accumulations of garbage on the streets and on the vacant property, and many of these nuisances were abated. To the same circumstance the inspector in the fourth district ascribed much of the contagion therein. In the fifth the same trouble existed. Up to 1878 most of this material was deposited at the locality known as "the Point" (which place of deposit was objectionable, although less so probably than any other portion of the city), but this had to be abandoned on account of the "filling" having extended as far as the law will allow. This avenue of escape for the city's filth being closed, resource was had to the most accessible spot, which usually is the nearest vacant lot or other unoccupied property.

Dead animals.—Dead animals must be removed by their owners within six hours to some point beyond the city limits, the penalty for failure to do so being a fine of not less than \$5 nor more than \$50. In case of such failure it is the duty of the health officers to see that they are so removed. The board of health contracts with some party or parties to remove all dead animals. In 1879 this service cost \$1,000, and 1,978 dead animals were removed. They must be removed in carts tightly secured and covered, and such carts are not allowed to stand still in any street or public place for more than fifteen minutes at a time.

Liquid household wastes.—Where the liquid household wastes do not run into sewers or cesspools they are disposed of like garbage, *i. e.*, thrown into the street, into the back yard, or over the fence into some vacant lot. No details are at hand, but it would seem from the health reports that the people get rid of their wastes in the easiest way possible.

Human excreta.—Where there are sewers, most of the houses have water-closets connected with them, but many privy-vaults are yet in use. They are seldom water-tight, and it is thought that they contaminate many wells, especially on the south side. The law provides that privy-vaults within 40 feet of a street or dwelling must be 6 feet deep and water-tight, but the law on this subject seems to be a dead letter in Pittsburgh. Privy-vaults must be emptied on the notification of the health officer, and their contents must be removed in tight carts securely covered. If any privy filth is spilled from a cart upon any street within the limits of the jurisdiction of the board of health it is to be judged an unauthorized deposit, and the parties responsible for it shall be punished as if it were such, *i. e.*, by a fine.

Manufacturing wastes.—No details concerning the disposal of manufacturing wastes are at hand, but it is probable that the ready outlet for such wastes furnished by the sewers and the rivers is amply sufficient.

POLICE.

The chief of police is the chief executive officer of the police department, subject to the regulations prescribed by the mayor. The captains have charge of the station-houses to which they are severally assigned, there being ten stations in all. The lieutenants have charge of police districts which are severally under their control, and they have control of the police force therein, subject to the orders of the mayor or chief of police. To obtain a place on the force the following qualifications are indispensable: Physical health and vigor, unimpaired sight and hearing, age between 21 and 50, ability to read and write, unblemished character, and habitual sobriety. Preference is given to men who served in the Union army. Officers are similarly uniformed, and are equipped with shield, number, mace, belt, and fire-alarm key.

Among the rules governing the department the following seems worth quoting:

Discussions and conversations in station-houses by members of the force or others in relation to party politics are improper, and will not be permitted.

The following rule would seem to favor the moderate use of tobacco, provided the public should not be made aware of it:

Smoking tobacco in the streets when in uniform at any time between sunrise and midnight is forbidden.

The expense of maintaining this department in 1880 was \$126,741 36.

FIRE DEPARTMENT.

The city owns 12 engine-houses, 2 hose-houses, 11 steam-engines, 14 hose-carriages, 3 hook-and-ladder trucks. There are 57 horses belonging to the department. The engine-houses are generally two- or three-story brick houses. There is a fire-alarm telegraph, with 130 miles of wire, 120 automatic signal-boxes, 5 magneto-electric strikes and bells, 300 battery cells, and the necessary accompaniments. The expense of maintaining this department in 1880 was \$110,499 67.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Pittsburgh for 1880, being taken from tables prepared for the Tenth Census by A. B. Mills, chief special agent:

Mechanical and manufacturing industries.	No. of estab-lish-ments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries	1, 112	\$52, 645, 010	32, 011	1, 631	3, 238	\$17, 166, 989	\$42, 100, 777	\$75, 915, 033
Agricultural implements	4	600, 000	292	.....	7	132, 769	230, 710	555, 150
Baking and yeast powders (see also Drugs and chemicals)	3	18, 000	8	7	1	7, 776	27, 747	57, 100
Blacksmithing (see also Wheelwrighting)	45	40, 075	88	.....	3	47, 278	59, 354	136, 903
Bookbinding and blank-book making	3	9, 000	17	14	1	10, 195	5, 350	19, 545
Boot and shoe uppers	3	13, 500	9	8	.....	12, 160	21, 600	40, 500
Boots and shoes, including custom work and repairing	25	494, 320	498	22	.....	128, 376	382, 826	611, 378
Boxes, fancy and paper	4	13, 000	10	26	.....	12, 145	13, 040	31, 865
Brass castings	12	175, 500	84	.....	.....	37, 429	91, 440	175, 125
Bread and other bakery products	62	384, 320	163	81	19	103, 594	411, 174	695, 906
Brick and tile	19	322, 900	291	.....	40	122, 604	127, 084	385, 477
Bridges	3	590, 000	692	.....	3	330, 164	648, 636	1, 214, 932
Brooms and brushes	6	77, 300	102	4	14	39, 570	111, 909	200, 450
Carpentering	32	60, 329	150	.....	.....	76, 195	156, 024	287, 981
Carpets, rag	6	2, 424	10	5	1	4, 355	5, 773	13, 245
Carriages and wagons (see also Wheelwrighting)	10	241, 300	182	.....	1	102, 550	146, 140	340, 413
Cars, railroad, street, and repairs	4	102, 500	67	.....	.....	37, 400	74, 500	134, 925
Clothing, men's	92	750, 000	775	475	.....	314, 325	1, 105, 200	1, 708, 560
Clothing, women's	16	29, 000	25	147	.....	16, 500	80, 000	130, 000
Coffee and spices, roasted and ground	9	330, 000	34	57	1	25, 380	1, 108, 390	1, 276, 420
Coffins, burial cases, and undertakers' goods	4	53, 500	9	5	.....	8, 720	34, 400	63, 600
Coke	10	262, 650	154	.....	2	54, 284	114, 352	208, 535
Confectionery	7	85, 200	57	48	13	50, 550	147, 965	250, 775
Cooperage	17	494, 735	414	.....	77	154, 598	868, 555	1, 152, 892
Cutlery and edge tools (see also Hardware)	3	355, 000	326	.....	.....	175, 184	259, 793	499, 000
Drugs and chemicals (see also Baking and yeast powders; Patent medicines and compounds)	5	251, 448	53	.....	.....	28, 010	62, 240	158, 646
Dyeing and cleaning	4	11, 500	4	9	.....	4, 550	2, 550	13, 375
Flouring- and grist-mill products	3	213, 500	47	.....	.....	21, 942	581, 701	691, 127
Foundry and machine-shop products	66	4, 102, 133	2, 603	.....	33	1, 390, 224	2, 664, 749	5, 530, 309
Furniture (see also Upholstering)	15	440, 950	329	12	11	164, 616	260, 848	543, 838
Furniture, chairs	3	2, 900	9	2	2	4, 664	5, 700	13, 650
Glass	46	5, 268, 000	4, 185	188	1, 473	2, 501, 431	1, 997, 303	5, 231, 971
Grease and tallow	3	17, 000	11	.....	.....	5, 050	196, 201	222, 091
Hardware (see also Cutlery and edge tools)	6	576, 566	495	11	90	203, 969	413, 164	741, 784
Iron and steel	39	25, 190, 000	14, 559	10	1, 063	8, 072, 110	19, 228, 063	35, 490, 634
Iron bolts, nuts, washers, and rivets	4	380, 000	358	.....	52	148, 709	571, 943	807, 760
Iron forgings	5	130, 500	84	.....	13	52, 410	86, 419	194, 387
Iron pipe, wrought	3	860, 150	565	.....	60	110, 582	1, 187, 025	1, 558, 250
Leather, curried	3	92, 500	25	.....	.....	13, 500	217, 010	282, 406
Leather, tanned	3	92, 500	30	.....	1	17, 000	145, 850	200, 000
Liquors, malt	23	1, 275, 103	284	.....	4	136, 483	655, 373	1, 150, 787
Looking-glass and picture frames	4	76, 000	16	1	0	12, 400	33, 500	62, 336
Lumber, planed (see also Wood, turned and carved)	18	561, 647	281	.....	9	154, 643	615, 325	1, 054, 395
Lumber, sawed	6	270, 000	96	.....	9	26, 945	250, 900	383, 420
Marble and stone work	11	84, 200	70	.....	.....	36, 021	32, 090	80, 769
Masonry, brick and stone	16	21, 825	107	.....	6	53, 577	64, 430	150, 580

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
Models and patterns.....	4	\$8,200	13	.....	.....	\$6,389	\$3,050	\$10,980
Oil, lard.....	4	65,000	11	.....	1	6,260	118,464	141,831
Oil, lubricating.....	6	42,500	42	2	.....	25,113	241,100	311,500
Painting and paperhanging.....	27	92,930	128	.....	3	66,438	72,461	188,730
Paints.....	3	237,000	80	.....	.....	33,232	281,706	360,390
Patent medicines and compounds (see also Drugs and chemicals).....	5	346,000	76	59	3	47,283	322,508	740,164
Photographing.....	5	21,050	13	4	.....	10,809	3,093	33,073
Plumbing and gasfitting.....	26	124,686	106	.....	1	40,864	97,837	197,755
Printing and publishing.....	42	1,567,600	654	48	3*	465,041	465,977	1,422,431
Roofing and roofing materials.....	6	48,300	50	.....	.....	22,860	46,500	93,912
Saddlery and harness.....	19	96,690	94	46	3	54,832	98,946	101,475
Safes, doors, and vaults, fire-proof.....	3	59,000	49	.....	1	26,350	25,000	63,575
Shipbuilding.....	15	93,000	210	.....	.....	102,080	144,333	295,288
Show-cases.....	3	35,000	29	.....	4	20,200	72,000	115,500
Slaughtering and meat-packing, not including retail butchering.....	9	693,000	91	.....	19	41,379	1,302,167	1,451,816
Soap and candles.....	4	111,056	23	.....	.....	14,212	83,825	121,248
Stencils and brands.....	3	8,100	12	.....	1	6,797	1,725	14,740
Stone and earthen-ware.....	4	85,500	69	20	3	49,450	67,744	137,181
Tinware, copperware, and sheet-iron ware.....	53	337,000	183	64	51	121,775	312,956	561,106
Tobacco, cigars and cigarettes.....	50	85,910	211	15	19	83,814	97,690	274,692
Upholstering (see also Furniture).....	6	43,250	33	36	1	30,150	64,608	139,708
Watch and clock repairing.....	7	47,900	15	.....	2	10,190	7,650	27,050
Wheelwrighting (see also Blacksmithing; Carriages and wagons)...	26	22,300	55	.....	2	26,045	24,412	82,088
Wirework.....	3	7,300	10	.....	4	6,099	12,900	27,200
Wood, turned and carved (see also Lumber, planed).....	6	21,800	26	.....	1	16,143	20,279	50,048
All other industries (a).....	82	2,003,898	945	310	64	558,229	2,549,294	4,024,232

a Embracing artificial limbs; awnings and tents; axle-grease; bags, paper; bellows; bells; boxes, cigar; boxes, wooden packing; brass and copper, rolled; bronze castings; coppersmithing; cordage and twine; cork cutting; crucibles; dentistry, mechanical; electroplating; engraving, steel; files; fire-arms; fruits and vegetables, canned and preserved; furs, dressed; galvanizing; glass, cut, stained, and ornamented; gold and silver leaf and foil; hairwork; hardware; saddlery; hats and caps; hosiery and knit goods; ink; iron nails and spikes, cut and wrought; iron railing, wrought; iron work, architectural and ornamental; jewelry; kaolin and ground earths; lamps and reflectors; lead, bar, pipe, sheet, and shot; liquors, distilled; lithographing; lock- and gun-smithing; malt; mantels, slate, marble, and marbleized; mineral and soda waters; pickles, preserves, and sauces; plated and britannia ware; regalia and society banners and emblems; saws; springs, steel, car, and carriage; steam fittings and heating apparatus; tobacco, chewing, smoking, and snuff; trunks and valises; umbrellas and canes; upholstering materials; varnish; washing-machines and clothes-wringers; whips; and wooden ware.

From the foregoing table it appears that the average capital of all establishments is \$47,342 63; that the average wages of all hands employed is \$464 91 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$56,148 80.

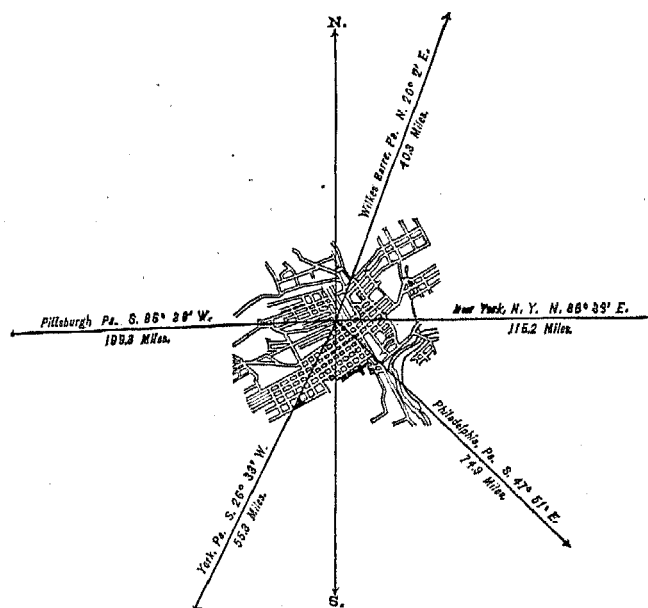
POTTSVILLE,

SCHUYLKILL COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1830-1880.

	Inhab.
1790.....	.....
1800.....	.....
1810.....	.....
1820.....	.....
1830.....	2,464
1840.....	4,345
1850.....	7,515
1860.....	9,444
1870.....	12,384
1880.....	13,253



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	6,247
Female.....	7,006
<hr/>	
Native	11,130
Foreign-born	2,123
<hr/>	
White.....	13,065
Colored	188

Latitude: 40° 41' North; Longitude: 76° 12' (west from Greenwich); Altitude: 615 to 876 feet.

FINANCIAL CONDITION:

Total Valuation: \$4,221,320; per capita: \$319 00. Net Indebtedness: \$80,442; per capita: \$6 07. Tax per \$100: \$1 79.

HISTORICAL SKETCH.

Pottsville, the capital of Schuylkill county, was first settled in 1825. It is in the center of the immense middle anthracite coal region, which fact is the chief cause of its importance, and its great facilities for the handling of coal have given it a rapid growth. Its prosperity is entirely identified with the fluctuations of the coal trade. Its population is much mixed in nationality. It has suffered from no great fires. It was incorporated as a borough February 19, 1828. In 1847 it was made the county-seat. The borough is generally well built and contains a large proportion of brick houses.

POTTSVILLE IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Pottsville:

LOCATION.

Pottsville is situated near the headwaters of the Schuylkill river just above its passage through Sharp mountain and at the mouth of Norwegian creek, 93 miles northwest of Philadelphia. The river here is not navigable. The altitudes above mean sea-level are: Average, 721 feet; lowest point, 615 feet; and highest, 876 feet.

RAILROAD COMMUNICATIONS.

Pottsville is touched by the following railroads: The Philadelphia and Reading railroad, to Philadelphia; the Schuylkill Valley branch of the same, to Tamaqua; the Mount Carbon and Port Carbon branch of the same, to Trackville; and the People's railway, to Minersville.

TRIBUTARY COUNTRY.

South of the borough is a farming region; on all other sides is a mining country, very uneven and hilly.

TOPOGRAPHY.

Pottsville is built over an anthracite-coal basin. The soil is of clay and gravel. The rock formation is sandstone and slate, interspersed with coal-seams. The site is very uneven; between the elevations of certain streets there is a difference of some 260 feet. Natural drainage is good. The mountain-tops surrounding the place are about 1,000 feet above tide-water. There are no near ponds or marshes. Nearly all the timber in the neighborhood has been cut off for use as props for the mines.

CLIMATE.

Highest recorded summer temperature, 100°; lowest recorded winter temperature, -15°; lowest winter temperature in average years, 0°.

STREETS.

Total length of streets, 26 miles. The paving is with broken stone and gravel. The cost of keeping streets in repair, by day labor, is \$3,300 annually. Sidewalks are generally paved with brick, and gutters with cobblestones. In street work there is no steam stone-crusher or roller used. There are 2 miles of horse-railroad. The number of cars is 4, with 6 horses and 3 men. The rate of fare is 5 cents. There are no omnibus lines.

WATER-WORKS.

The water-works are owned by a private corporation, and no statistics were furnished. The water is supplied by gravity.

GAS.

The gas-works are not owned by the borough. The charge for gas per 1,000 feet is \$2 80, with 10 per cent. off if paid within ten days after presentation of bi-monthly bills. On an average the borough pays \$19 per annum for each street-lamp, 145 in number.

PUBLIC BUILDINGS.

Nothing under this head was reported.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are in Pottsville no public parks or pleasure-grounds.

PLACES OF AMUSEMENT.

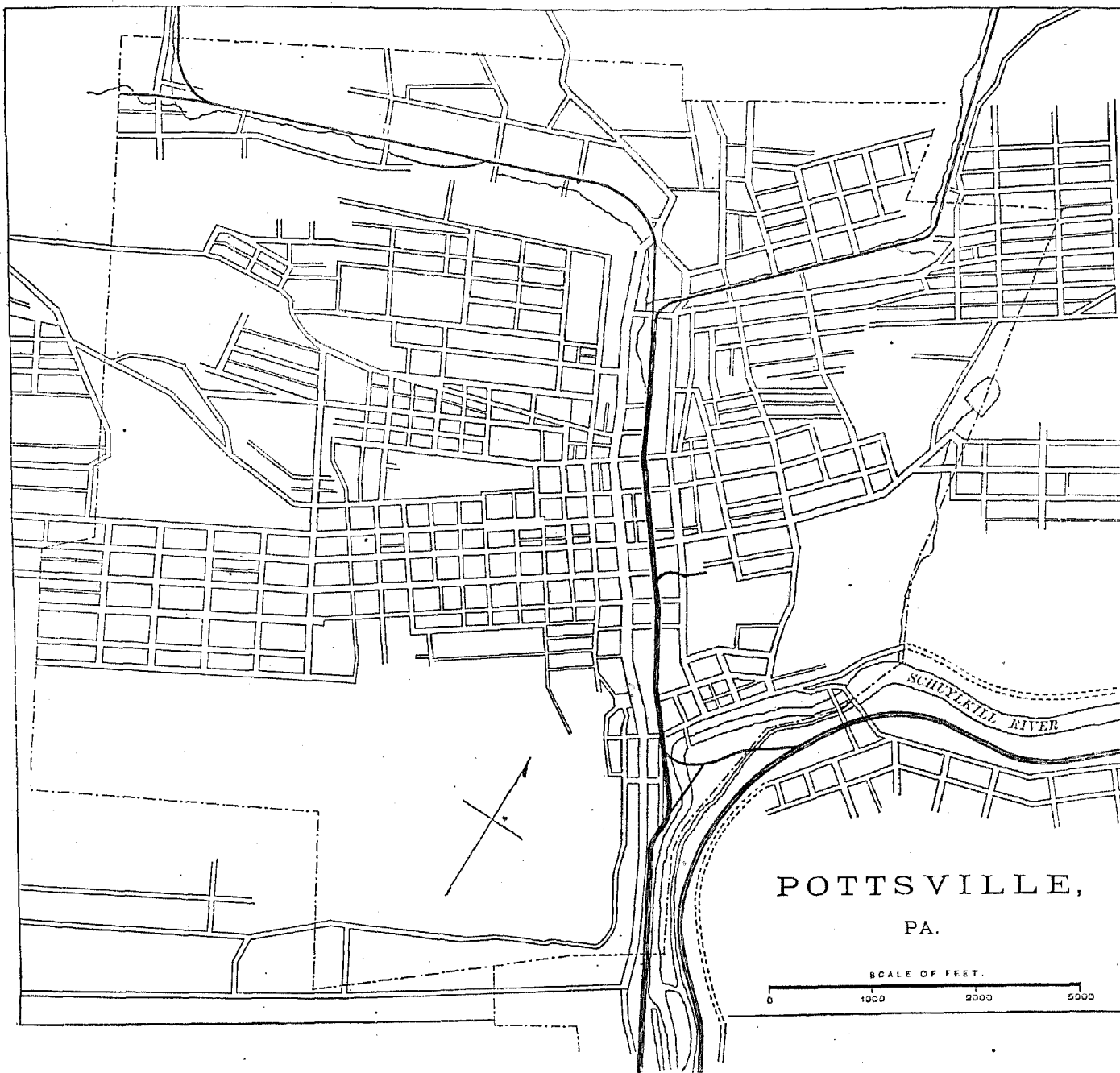
The borough has the following theaters, halls, and lecture-rooms: Opera-house, seating 900; Union hall, seating 600; Mountain City hall, seating 800, and Centennial hall, seating 450. Theaters pay no license or other revenue to the borough. Of concert- or beer-gardens there are none.

DRAINAGE.

The information concerning the sewerage of the city is too meager to justify its introduction here.

CEMETERIES.

There are connected with the borough 16 public and private cemeteries and burying-grounds within a radius of two-thirds of a mile from the court-house; viz, Trinity church, 4 Roman Catholic, 1 German Roman Catholic,



POTTSVILLE,
PA.

SCALE OF FEET.

0 1000 2000 5000

"Pottsville" or Presbyterian church, Welsh Baptist, African Methodist Episcopal, Odd Fellows', Charles Baber, Potter's field, Friends', 2 Jewish, and the original Pottsville cemetery. In the latter interments are no longer made.

MARKETS.

There are no public or corporation markets in Pottsville.

SANITARY AUTHORITY.

The chief health organization of Pottsville is the sanitary committee, which consists of three members of the town council, appointed annually by the president of the council, and the actions of the committee are subject to its pleasure. Ordinarily the committee incurs no annual expense, and during an epidemic they can incur expense only as directed by the council. The committee at all times has authority to direct the chief burgess or high constable to abate such nuisances as are brought to its attention. The chief executive officer of the committee is the chairman, who receives no salary. The business of the committee is performed at meetings held at irregular intervals at the call of the chairman. No assistant health officers or inspectors are employed, and inspections are made only as nuisances are reported. When this is done the chief burgess or high constable is directed to notify the proper parties to abate the same. There is no formal mode of procedure concerning the inspection and correction of defective house-drainage, privy-vaults, cesspools, sources of drinking-water, sewerage, street-cleaning, etc. Neither small-pox nor scarlet-fever patients are isolated or quarantined at home, nor does the committee take cognizance of the breaking out of contagious diseases in public and private schools. There is no public pest-house. Vaccination is not compulsory, nor is it done at the public expense. There is no system of registration of births, diseases, and deaths. The committee, at its own pleasure, reports to the town council.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the borough and with its own force. The work is done wholly by hand, no sweeping-machines being used. This cleaning is done efficiently, and as often as needed. The annual cost of this work is estimated at \$300. The sweepings are deposited in the suburbs of the borough.

Removal of garbage and ashes.—Garbage is removed by householders. There are no regulations as to the manner of keeping garbage while awaiting removal, and ashes may be kept in the same vessel. Both of these are hauled outside of the borough and disposed of. No nuisance is thought to result from this disposal or from improper keeping on premises.

Dead animals.—Such are removed by the high constable at an annual cost of about \$80. The number of dead animals annually removed is estimated at 300, chiefly cats and dogs.

Liquid household wastes.—Chamber and kitchen slops and laundry wastes are disposed of in the same way. A small proportion, perhaps one-eighth, of the liquid household wastes of the borough are delivered into the public sewers; a very small portion is allowed to run into the street-gutters, and an unknown but probably large proportion is delivered into dry wells and cesspools, which are nominally water-tight and without overflows. When cesspools are used a few of them receive the wastes from water-closets. Cesspools and privy-vaults are cleaned out only at night.

Human excreta.—About one-eighth of the houses of the place have water-closets, nearly all of which deliver into the public sewers. It is not known that the dry-earth system is at all in use. The ordinary disposal of night-soil is for use outside the borough as manure, which use is not allowed on land within the gathering-ground of the public water-supply.

Manufacturing wastes.—The disposal of liquid and solid manufacturing wastes is not subject to any regulations.

POLICE.

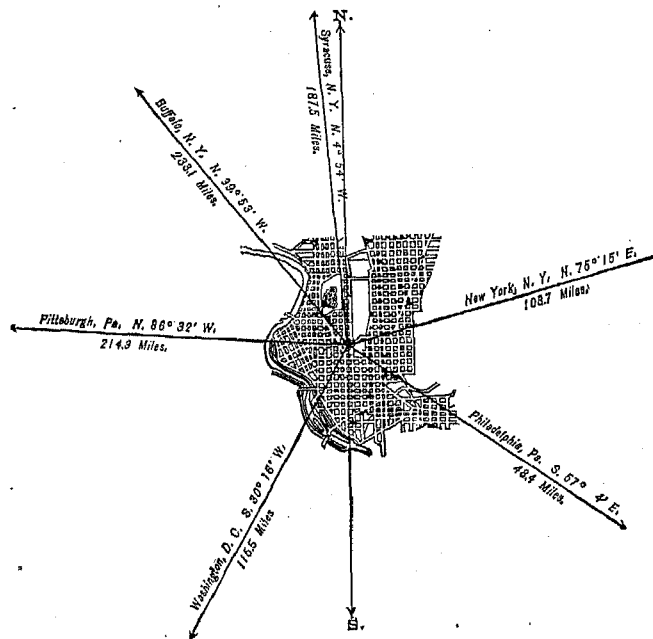
The police force is appointed by the town council, and is under the supervision of three members of the council, styled the "committee on lamps and watch". The chief executive officer is the chief of police; he has general charge of the force, and his salary is \$50 per month. The rest of the force consists of 7 patrolmen, at a monthly salary of \$45 each. The uniform is of blue cloth, including overcoat, and each man provides his own. Patrolmen are armed with maces and revolvers. The hours of service are, in winter, from 6 p. m. to 5 a. m.; in summer, from 7 p. m. to 4 a. m. Each man patrols on an average 4 miles of streets. The number of arrests during 1880 was 90, for which the principal causes were, drunkenness, 32; disorderly, 44; nuisances, larceny, etc. Of those arrested 35 were fined and the others variously disposed of. The number of station-house lodgers during the year was 321, as against 225 in the previous year. During the year, by voluntary contributions and at no expense to the borough, a number of free meals were given to deserving station-house lodgers. The police force co-operates with the fire department at fires by preserving property and keeping good order. Special policemen to the number of 40 or 50 are annually appointed by the chief burgess. These serve without pay, and their services are not often required. They generally wear their stars on circus days only, and have no connection with the regular force. The cost of the police force for salaries during the past year was \$4,390 61.

READING, BERKS COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	.....
1800.....	2,386
1810.....	3,462
1820.....	4,332
1830.....	5,856
1840.....	8,410
1850.....	15,743
1860.....	23,162
1870.....	33,930
1880.....	43,278



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	21,099
Female.....	22,179
Native.....	39,654
Foreign-born	3,624
White.....	42,926
Colored.....	* 352

* Including 2 Chinese.

Latitude : 40° 20' North ; Longitude : 75° 55' (west from Greenwich) ; Altitude : 178 to 656.75 feet. (a)

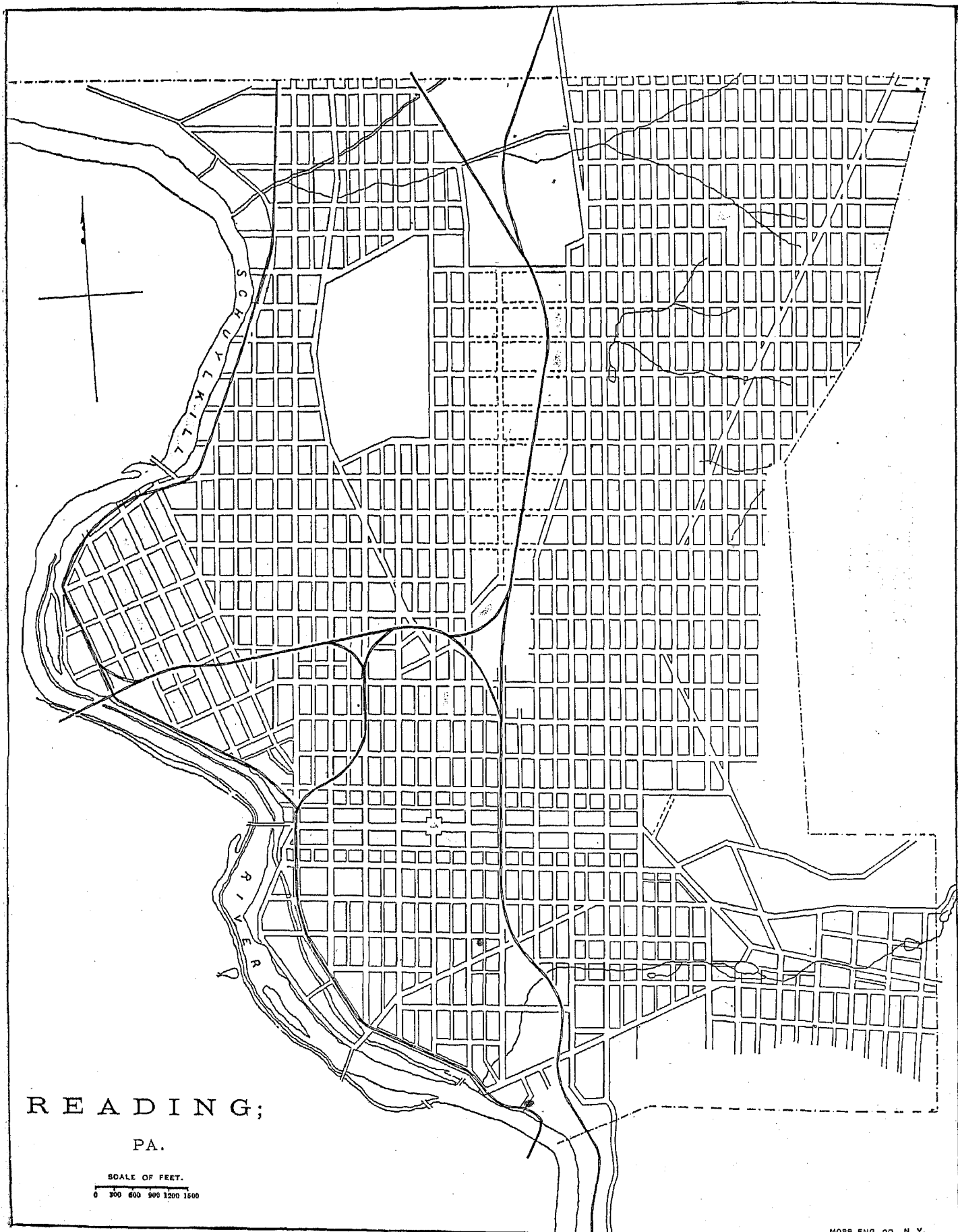
FINANCIAL CONDITION :

Total Valuation : \$19,343,858 ; per capita : \$447 00. Net Indebtedness : \$999,000 ; per capita : \$23 08. Tax per \$100 : \$1 26.

HISTORICAL SKETCH.

In the year 1733, 450 acres of land, now included in the city of Reading, were purchased and surveyed by John and Samuel Finney ; but when the original proprietors, Richard and John Penn, became aware of its advantageous situation, they proposed to repurchase the land as a site for a town, and in 1748 the Finneys reconveyed it to the early owners, who at once laid out the town. The first house was erected in 1748, and was a meeting-house of the Friends, who were the first settlers, and who for a few years administered the affairs of the young town. In 1752, however, Reading, which had received its name from Reading, Berkshire, England, the home of the Penns,

a Above mean tide in the Delaware river at Philadelphia.



READING;
PA.

SCALE OF FEET.
0 300 600 900 1200 1500

was made the shire town of Berks county; and many Germans from Wurtemberg and the Palatinate, with Alsations, Swedes, and a few Scotch and English, came to the town, starting it on the high road to prosperity. The town, which in 1751 had 381 inhabitants, had increased to 1,100 in 1770, and during the period of the Revolution received many additions from the refugees who made their home in Reading while the British held Philadelphia. Its people were intensely patriotic, a large number enlisting in the Continental army. It was the Pennsylvania depot of supplies for the Continental forces, and the place where the English, Scotch, and Hessian prisoners were encamped. After the close of the war it was incorporated as a borough (1783), and continued gradually increasing in size and importance, until in 1810 it was a place of some 3,500 inhabitants.

Its consequence was greatly enhanced by the construction of the Schuylkill canal, which passes through Reading on its way from Philadelphia to Port Carbon, and the Union canal, extending from Reading on the Schuylkill to Middletown on the Pennsylvania canal, uniting these two water thoroughfares. But more than the canals, the city owes its prosperity to the Philadelphia and Reading railroad, one of the earliest, and now one of the most important, railways in the United States. In 1840 the borough had a population of upward of 8,400, and in the next ten years began to grow more rapidly than ever before. During this decade many improvements were made in Reading, which in 1847 was incorporated as a city. Since 1850, when there were 15,743 inhabitants, the population has increased at the rate of nearly 1,000 a year, and to-day reaches 43,278, thus making Reading the fifth city of the state. Its manufacturing interests are large. It early had a considerable trade in hats with the South and West; it manufactures cotton and woolen goods in large quantities; but the industry which has given the city its chief importance is the manufacture of iron and iron ware.

The German element of its population has been the leading one. For many years German was the language in which business was transacted, and even now it is spoken in many places, some of the church services still retaining it.

The city is a beautiful one and contains many fine buildings.

READING IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Reading:

LOCATION.

Reading is situated in latitude $40^{\circ} 20'$ north, longitude $75^{\circ} 55'$ west from Greenwich, on the east bank of the Schuylkill river, about 52 miles from Philadelphia. Its average level above mean tide in the Delaware river at Philadelphia is 255 feet, the lowest point being 178 feet, and the highest 656.75 feet above that level. The Schuylkill river is not navigable at Reading; but by means of the Union and Schuylkill canals the city has water communication with Philadelphia and the coal regions.

RAILROAD COMMUNICATIONS.

The city is the center of the Philadelphia and Reading railroad, which, with its large number of connections centering here and running in every direction through the Schuylkill coal-region and thence to Philadelphia, furnishes Reading with more than ordinary advantages in railroad communication. It is also the terminus of the East Pennsylvania railroad running to Allentown, the Lebanon Valley railroad running to Harrisburg, the Reading and Columbia railroad, and the Wilmington and Northern railroad to Wilmington, Delaware.

TRIBUTARY COUNTRY.

Reading is the center of a vast agricultural, manufacturing, and iron-manufacturing district. It is the market for the sale of the agricultural products of the surrounding country, and the seat of large furnaces and iron manufactories, in which the universal products of the vicinity are utilized. Its local trade is thus large and very important, as it acts as the distributing point for the whole district.

TOPOGRAPHY.

The city is situated on the western slope of mount Penn, a hill about 1,000 feet in height, and covers the space included by the base of the mountain and the east bank of the Schuylkill river. The rock underlying the city is limestone. There are no marshes, ponds, or lakes. The country for a radius of 5 miles is mostly open, the hills only being wooded. The soil is fertile.

CLIMATE.

The average summer temperature of the city is 75.3° , although the thermometer has ranged as high as 103° ; the lowest recorded winter temperature is -3° , the winter temperature being on the average 33.5° . There is no wind that can be called a prevailing one. During the past three years malarial fever has been very prevalent, the causes so far having escaped the researches of the physicians.

STREETS.

There are 55 miles of streets, of which 5 miles are paved with cobble-stones and 32 miles with macadam (broken-stone) paving. The cost of paving after the streets have been graded is about 60 cents per square yard. The city expends \$12,000 annually upon its streets in keeping them in good repair. The work of construction is done entirely by contract, while repairing is done by the day. The sidewalks are of brick or of North River bluestone, and the gutters are paved with cobble-stones.

Trees are planted along the streets, being placed close to the curb-stones.

There is a single horse-railway company in the city, which has 47 miles of track, 20 cars, and 70 horses, employs 26 men, and during the year carried 370,000 passengers, the rate of fare being 5 cents. There is also a line of omnibuses, owning 5 vehicles and 15 horses, employing 10 men, and carrying 45,000 passengers at fares of 10 cents.

WATER-WORKS.

The water-works are owned by the city, water being brought from mount Penn and distributing itself by gravitation, giving a pressure of 30 pounds to the square inch. The total cost of the works can not be ascertained, but the outstanding debt of the city for its water-bonds January 1, 1880, was \$522,500. The annual receipts from water-rates are \$60,000 a year. A few Worthington meters are in use, but, in general, meters are dispensed with.

GAS.

The City is supplied with gas by a private corporation. The average daily production of gas is 120,000 feet, the charge for which is \$2 50 per 1,000 feet. The city pays \$22 per annum for each of the 367 gas street-lamps in use.

PUBLIC BUILDINGS.

The city owns and uses for municipal purposes a city hall, which cost \$40,000, and 8 engine-houses of the fire department. No further information was furnished.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The only public park in the city is a small one of 5 acres on the western slope of mount Penn, and was constructed by a number of citizens with no expense to the city. The land was donated by the county of Berks. There are a few private grounds opened by their owners to the public. The management of the park is under a committee of the citizens who constructed it.

PLACES OF AMUSEMENT.

There are two theaters in the city, the Academy of Music and the Grand opera-house. These pay a license of \$100 a year to the city. Keystone hall, Männerchor hall, Library hall, and Young Men's Christian Association hall are used for concerts and lectures. Each of these pays a license of \$30 per annum.

The following concert- and beer-gardens are scattered through the city: Spring garden, Fairview park, Arion garden, Saint Elene garden, and Lauer's park.

SEWERAGE AND DRAINAGE; CEMETERIES; MARKETS.

The city authorities furnish no information regarding sewerage and drainage, cemeteries, and markets.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Reading is placed in the hands of a board of health consisting of 7 members, 5 of whom are appointed by the presidents of the select and common councils, or, in case of their disagreement, by the mayor, from five sections of the city, one from each, while the two others, who must be physicians, are chosen by the first five members. The board thus constituted has unlimited powers under the laws of the state to take any steps in its judgment necessary for the public health, and authority to go to any expense in maintaining the sanitary condition of the city. This power is contested by the city councils, which seek to confine the expenses of the board within the limits of the appropriation placed by the councils at its disposal. The expenses of the board during the past year were \$1,394 44. The chief executive officers of the board of health are the health commissioner, salary \$540 per annum, and the secretary, salary \$300. Neither of the officers has police powers other than the authority to enter and search any premises when nuisances are suspected. The board meets once each week.

NUISANCES.

Nuisances are inspected when reported, as no regular inspections are made. When complaint is made of any nuisance, and inspection shows one to exist, the owner or occupant of the premises is notified to abate it within a specified time. If this notice is disregarded, the abatement is made by the health commissioner, and all expenses are charged upon the estate. Payment is enforced by bringing a suit in the name of the city against the owner or occupant of the premises on which the nuisance existed. The regulations of the board prohibit the pollution of

the streams by casting filthy or putrefied matter into them. No one is allowed to throw garbage or filth into the public streets or highways. Defective house-drainage, privy-vaults, cesspools, and sources of drinking-water are rectified under the orders of the board.

GARBAGE.

The board designates the place where householders shall deposit garbage.

BURIAL OF THE DEAD.

No interment can be made until a permit has been obtained from the secretary of the board of health, who grants it on receiving due notice of the death and a fee of 25 cents. All persons dying from small-pox must be buried within twenty-four hours after death. The coroner and all practicing physicians must make a return to the secretary of all deaths coming under their knowledge, with a statement of the name, age, sex, color, civil condition (married or single), cause of death, etc., of the deceased.

INFECTIOUS DISEASES.

Small-pox patients are isolated in their own homes, and a red mark is placed on the house to warn passers of the danger of infection. Any one removing this mark is liable to a heavy fine. Scarlet-fever patients are not isolated in any way; but children from families where the disease exists are not allowed to attend the public or private schools. There is no public pest-house; vaccination can be made compulsory by the board of health if it thinks necessary, but it is not done, under ordinary circumstances, at public expense.

REPORTS.

The board reports annually to the city councils, and these reports are published in pamphlet form.

The registration of diseases, deaths, and births is under the control of the board, to which all physicians and midwives are required to make regular reports.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by contractors paid by the city. Each of the streets is cleaned once a year, the work being done entirely by hand and done well. The sweepings are deposited on ungraded streets to aid in raising them to grade. The cost of this service to the city is \$1,275.

Removal of garbage and ashes.—The householders remove their ashes and garbage at their own expense to such places as the board of health may designate. While awaiting removal, garbage must be kept separate from ashes, and must not create a nuisance. No estimate of the cost of removal under this system can be given.

Dead animals are removed beyond the city limits by the city scavenger, and there disposed of as he may deem most advantageous to himself. For this service he receives \$300 annually.

Liquid household wastes.—The laundry and kitchen wastes from the houses are generally run into the street-gutters; the chamber-slops are thrown into the privy-vaults, which, however, often receive all the household wastes. There is no system of public sewerage. Cesspools are in use in almost every house. They are nominally water-tight. When the contents reach a certain height, the regulations of the board of health require that they shall be cleaned out. The regulations of the board also require that the pools shall be walled up in brick or stone and 20 feet deep, unless in digging them rock is struck or living springs, but under no circumstances can they be less than 6 feet deep. The work of cleaning is done by persons licensed by the board of health. Before cleaning a cesspool or vault (for in Reading they are the same) a permit must be obtained from the board, and the work be done between the hours of 11 p. m. and 4 a. m. from May to November, or between 10 p. m. and 6 a. m. during the rest of the year. The street-gutters are flushed whenever the supply of water will warrant such use of it.

Human excreta.—About 15 per cent. of the houses are provided with water-closets, the wastes from which go into cesspools. The rest of the houses depend on privies. The rules for cleaning these are given above. The night-soil is sold to farmers, who use it as a fertilizer. None is allowed on the gathering-ground of the public water-supply.

Manufacturing wastes.—The liquid wastes from all manufacturing establishments, except the tanneries and paper-mills, are run into the street-gutters. The disposition of the solid wastes is not stated.

POLICE.

The police force of Reading is appointed by the mayor, and governed by him in conjunction with a committee on police, consisting of one member of the select and two of the common council. The chief executive officer is the chief of police, who has the general charge and control of his department, and receives a salary of \$65 per month as chief of police, and \$25 per month as superintendent of the fire-alarm telegraph. The rest of the force consists of 2 sergeants, salary \$53 a month; 26 patrolmen, salary \$50 a month; and 2 turnkeys, salary \$45 50 a month. The uniform is of navy-blue cloth, and each man supplies his own uniform from his salary, \$60 of which is regarded as an allowance for a uniform. The men are each equipped with a short club, twisters, and whistle, a revolver being allowed only by special permission of the mayor; in winter the men have each a belt and a baton. They

are on duty from 6 p. m. to 6 a. m. at night; the day hours, if any, are not stated. Each man patrols $4\frac{1}{2}$ blocks, each 500 feet in length. During the past year 1,159 arrests were made, the principal causes being drunkenness, disorderly conduct, assault and battery, and larceny. The police accommodated 3,367 station-house lodgers in 1880, as against 3,408 in 1879. The amount of property recovered by the police and returned to the owners from whom it had been stolen or by whom it had been lost, could not be learned. The force is required to co-operate with the fire and health departments. Special policemen are appointed by the mayor whenever necessary, and are under the same rules and regulations as the regular force. The cost of the department in 1880 was \$19,820.

FIRE DEPARTMENT.

The city has a volunteer fire department consisting of nine companies. The apparatus includes 8 steam fire-engines, 11 hose-carriages, 3 hook-and-ladder trucks, one of them old, and 9,150 feet of serviceable and 1,370 feet of unserviceable hose. There are 16 horses in use by the department. The force is under the control of a chief engineer, who has in the past served without salary. The mayor, in his report for the year ending in January, 1880, recommends paying a salary to this officer. The cost of the department covered by the mayor's report was \$11,584 11.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Reading for 1880, being taken from tables prepared for the Tenth Census by John B. Snyder, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	330	\$7,498,256	5,413	724	558	\$2,240,290	\$8,396,910	\$13,251,095
Agricultural implements	3	2,450	7	.....	.....	1,992	2,100	5,500
Baskets, rattan and willow ware	3	400	6	.....	.....	1,190	1,750	4,450
Blacksmithing	8	7,450	21	.....	.....	6,800	6,195	20,184
Boots and shoes, including custom work and repairing	18	90,025	96	25	4	32,865	66,840	113,947
Boxes, cigar	3	10,750	8	8	.....	5,100	25,450	44,800
Boxes, fancy and paper	4	3,800	6	10	.....	3,180	4,750	10,800
Bread and other bakery products	28	41,300	73	1	13	25,725	71,950	130,450
Brick and tile	10	197,600	138	.....	43	38,617	81,408	168,424
Brooms and brushes	9	8,128	23	1	5	7,345	16,600	38,900
Carpentering	14	77,850	106	.....	2	34,187	66,442	131,954
Carpets, rag	7	4,300	34	3	3	16,470	12,100	31,543
Carriages and wagons	4	22,800	50	.....	2	15,000	20,000	47,100
Clothing, men's	9	150,100	92	106	.....	42,805	113,763	176,000
Coffins, burial cases, and undertakers' goods	4	17,000	9	.....	.....	3,650	9,050	19,300
Confectionery	8	20,100	16	8	3	7,600	28,400	49,600
Foundry and machine-shop products	16	668,265	758	1	23	284,372	519,619	987,200
Furniture	6	80,500	79	.....	.....	27,700	54,235	140,230
Hardware	4	422,363	520	12	78	182,562	188,241	579,789
Iron and steel	8	2,315,000	1,373	.....	49	622,237	2,089,949	4,074,447
Leather, curried	5	42,867	27	1	.....	10,743	109,095	135,825
Leather, tanned	5	95,233	47	3	2	18,082	152,224	184,205
Liquors, malt	6	576,000	79	.....	.....	43,280	214,041	389,200
Marble and stone work	5	79,500	31	.....	1	11,750	44,400	84,600
Painting and paperhanging	11	22,100	64	.....	1	17,075	22,665	50,284
Photographing	4	5,800	12	4	.....	6,935	4,075	17,500
Printing and publishing	9	221,400	165	5	27	62,444	65,145	167,400
Saddlery and harness	8	15,000	20	.....	.....	8,970	12,100	26,250
Shirts	3	5,400	4	17	.....	5,180	12,700	23,800
Tinware, copperware, and sheet-iron ware	18	67,725	54	1	.....	20,930	34,590	64,695
Tobacco, cigars and cigarettes	29	70,000	63	111	15	33,200	74,378	154,316
Wool hats	9	511,000	386	174	63	205,314	693,996	1,142,334
All other industries (a)	52	1,639,650	1,032	233	219	444,980	2,678,080	4,040,438

a Embracing bags, paper; bookbinding and blank-book making; boot and shoe uppers; coffee and spices, roasted and ground; cooperage; coppersmithing; cordage and twine; cotton goods; dentistry, mechanical; engraving and die-sinking; fertilizers; files; flouring and grist-mill products; furniture, chairs; hairwork; iron bolts, nuts, washers, and rivets; iron forgings; iron nails and spikes, cut and wrought; iron pipe, wrought; liquors, distilled; lock and gun-smithing; looking-glass and picture frames; mantels, slate, marble, and marbleized; mineral and soda waters; mixed textiles; models and patterns; musical instruments, organs and materials; paints; paper; shoddy; soap and candles; spectacles and eyeglasses; stone and earthen-ware; toys and games; umbrellas and canes; upholstering; watch and clock repairing; wood, turned and carved; and woollen goods.

From the foregoing table it appears that the average capital of all establishments is \$22,721 99; that the average wages of all hands employed is \$334 62 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$33,597 26.

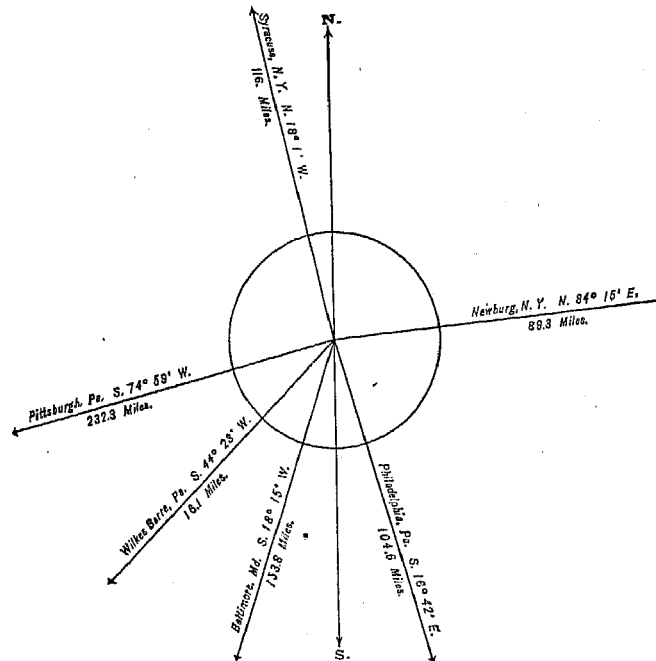
1826—VOL 18—56

SCRANTON, LACKAWANNA COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1860-1880.

	Inhab.
1790.....	.....
1800.....	.....
1810.....	.....
1820.....	.....
1830.....	.....
1840.....	.....
1850.....	.....
1860.....	9,223
1870.....	35,092
1880.....	45,850



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	23,170
Female.....	22,680
Native	29,993
Foreign-born.....	15,857
White.....	45,706
Colored	*144

* Including 2 Chinese.

Latitude: 41° 24' North; Longitude: 75° 43' (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: \$5,403,135; per capita: \$118 00. Net Indebtedness: \$325,202; per capita: \$7 09. Tax per \$100: \$3 96.

HISTORICAL SKETCH.

Scranton was, previously to 1840, a small hamlet, consisting of a few scattered, rude houses, situated in the Susquehanna valley, and included in the territory generally known as "Slocum Hollow". The discovery of iron and coal here in 1840 by the Scranton brothers decided the future of the place, and in forty years it has passed into a large manufacturing city, the fourth in size in the state. It owes its prosperity to the numerous collieries within its limits, to its immense rolling-mills and steel-works, its furnaces, and its iron-works for manufacturing rails, locomotives, and mining machinery. The original settlers were from Connecticut, and though largely increased by foreign operatives and miners, the greater portion of the present population is native-born.

SCRANTON IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of Scranton:

LOCATION, ETC.

Scranton lies in latitude $41^{\circ} 24'$ north, longitude $75^{\circ} 43'$ west from Greenwich, on the left bank of the Susquehanna river, which is not here navigable. The country to the north and south, for about 30 miles, is chiefly devoted to coal-mining, while to the east and west it is agricultural. The city is the center of trade for the Lackawanna or Wyoming coal region. The soil under the site of the city is generally thin, unproductive, and better adapted for pasture than for tillage. The underlying rock is a kind of grayish sandstone, and underneath this is a bluish hard stone resting on coal, or separated from it by a layer of bluish sand. The city is built in a basin or hollow, surrounded by elevated ground rising to a height of from 100 to 500 feet. The natural drainage is into the Lackawanna river. There are no marshes or ponds in the city, and the surrounding country is open.

RAILROAD COMMUNICATIONS.

Scranton is reached by the following railroads:

The Delaware and Hudson Canal Company's railroad, from Scranton to Montreal, Canada.

The Delaware, Lackawanna, and Western railroad, between New York and Oswego; and, by the Bloomsburg division, to Wilkesbarre and Northumberland.

The Central Railroad of New Jersey, between New York and Binghamton.

CLIMATE.

Highest recorded summer temperature, 110° ; highest summer temperature in average years, 100° to 110° . Lowest recorded winter temperature, -20° ; lowest winter temperature in average years, -14° to -20° . The prevailing wind is from the northeast and is always mild.

STREETS.

No information on this subject was furnished. The city has a street railway, water-works, and gas-works.

PUBLIC PARKS AND PLEASURE-GROUNDS.

There are no public parks or pleasure-grounds in Scranton.

PLACES OF AMUSEMENT.

There is one theater in the city, with a seating capacity of about 3,000. It pays an annual license of \$150. There are no concert-halls or lecture-rooms, or concert- and beer-gardens.

DRAINAGE.

There has as yet been no complete plan for the sewerage of the city prepared, but work has been made to conform to plans for different districts. There are no "data sufficient to state accurately the extent of covered water-courses, but the amount is not very extensive. But few private drains empty into them. A number discharge into abandoned mines under the city. None of them have been incorporated into the system contemplated for the sewerage of the city. Said system is completed in one district of about 40 acres, and in process of completion is another district of about 220 acres".

The ventilation of the sewers is "through the manhole covers in the small district, which is a pipe district, composed of 12-, 15-, and 18-inch terra-cotta pipes. The brick main in the second district (now building) has a rise of 100 feet in 4,000, is principally an oval, equal to a 42-inch circular, and will depend upon its manholes for ventilation".

The mouths of the sewers are "fully exposed at present, but eventually will empty into an intercepting sewer to be laid at the river-level and along its channel, using the river-water for flushing purposes".

The sewage is delivered "into the Lackawanna river about 10 miles above its junction with the Susquehanna. Said river is about 40 miles long, runs mostly through an open country, is rapid, and so strongly impregnated with sulphuric acid, from coal-mine drainage, as to kill all fish".

The removal of deposits by hand or by artificial flushing is "unnecessary, the fall of all sewers and branches so far laid, or contemplated, being far greater than indicated by tables as necessary for self-cleansing".

The cost of the sewers is paid by each district. "The main trunk-sewer is assessed upon the whole district by 'area of property' and benefits, the branches by front foot, allowing corner lots a rebate of one-third the longest side. This includes street-crossings, manholes, corner-basins, etc., but does not extend beyond the necessary spurs for private connections."

Concerning the cost of the work, Mayor Powderly gives the following information concerning a sewer of which "the engineer's estimate of cost was about \$36,000. The contract was made at about \$26,000; \$30,000 would have been about a fair price for it. This includes 1,125 linear feet pipe sewer, 12-, 15-, and 18-inch, 12 feet deep; 358 linear feet 36-inch circular brick sewer at surface (covered 4 feet deep); 2,300 linear feet oval, equaling a 42-inch circular brick sewer, averaging 15 feet deep; 1,200 linear feet 24-inch circular brick sewer, averaging 12 feet deep; 22 manholes, 18 receiving-basins, and 236 cubic yards masonry".

The above is the main or trunk sewer of the second district. The branches have not yet been contracted [for].

The first district, laid in 1872, consists of about 5,500 linear feet of 12-, 15-, and 18-inch Scotch pipe, laid 12 feet deep, at a cost of about \$5 per linear foot, including manholes and basins.

The streets being 80 and 100 feet wide, the double system is used for pipes—that is, gutter instead of center lines.

The average cost of inlet-basins is \$90, and the average cost of manholes of average depth is \$50.

The mayor closes his report as follows:

This city is the result of the consolidation of contiguous boroughs in 1877. Old methods and practices still prevail. The total amount appropriated for the city engineer's department has never exceeded \$3,000 per year, and the inclination is to reduce rather than exceed that amount; as a consequence, most of the data is field-notes and working sketches. Finished drawings and complete records are yet to be made. Four-fifths of the area within the city limits can be rapidly and completely drained into the river, which almost bisects it by short direct lines. The population is scattered, and but very few of the streets have grades as low as one foot to the hundred.

The streets are generally earth roads, with curbed and paved gutters, there being less than 2 miles of paved streets and alleys (these of cobble). Improvements are constantly being made, and generally under the supervision of the engineer and health departments.

It would seem that more importance might properly be attached to the prevailing practice of draining houses into the abandoned mines underlying them. The accumulation of waste organic matters there formed is said to be of serious amount.

CEMETERIES.

There are seven cemeteries and church-yards in Scranton, two of which are no longer used for interments. They either belong to private corporations or have been granted to churches. Lots are sold at prices varying from \$20 to \$150, according to location and improvement. In some of the cemeteries, especially the church-endowed ones, owners take care of their own lots. In the others the superintendents have the care of lots, charging so much a year, according to the amount of work done. Roads are laid out under direction of the superintendent, but no attempt is made at landscape-gardening in any of the cemeteries. As none of the cemeteries belong to the city, there are no ordinances governing them. Burial permits are granted to undertakers by the board of health on certificates of death from the attending physicians. The limit of time after death for interment is forty-eight hours, and the depth of graves is from 5½ to 6 feet.

MARKETS.

There are no public or corporation markets.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Scranton is vested in a board of health, an independent body, composed of the mayor *ex officio*, and four members appointed by the city council. They hold office for two years and serve without pay. In ordinary times the annual expense of the board is \$1,000, for salaries of health officer, secretary, and sanitary policemen. During an epidemic the amount to which the expenses may be increased is not limited, the city council being required at all times to meet all expenditures made by the board. The authority of the board, either in the absence of or during an epidemic, is, under state laws, unlimited so far as the abating of nuisances or preservation of the health of the city is concerned. The mayor is the president of the board, and presides at the meetings. The chief executive officer is the health officer—salary not stated—who is a physician. One sanitary policeman is employed, with full police powers, as assistant to the health officer, and the mayor has power to detail from the police force as many men as the board may need to act as inspectors. Inspections are made annually in all parts of the city, and thereafter as reported. When a nuisance is discovered or reported the health officer visits the premises, and if in his judgment a nuisance exists, he serves a notice on the responsible parties to abate the same at once. The health officer inspects all defective house-drainage, privy-vaults, cesspools, and sources of drinking-water (wells), and notifies the owners of the premises to correct the same. If his orders are not complied with, legal proceedings are instituted. The board has nothing to do with defective sewerage or street-cleaning except to call attention to neglect, but exercises full control over the conservation and removal of garbage. The secretary of the board issues all burial permits.

INFECTIOUS DISEASES.

Small-pox patients are removed to the pest-house, which is situated outside the city limits. Scarlet-fever patients are neither isolated nor quarantined at home. The board does not take cognizance of the breaking out of contagious diseases in private and public schools. Vaccination is not compulsory, but it is done at the public expense. The record of births, diseases, and deaths is kept by the secretary of the board.

REPORTS.

The board reports annually to the city council, and the report is published in book form, with those of the other city officers.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned both by the city and by private abutters, the city doing its share with its own force. The work is done wholly by hand, no sweeping-machines being used. The main streets are cleaned once a week. The annual cost to the city is \$2,000; the cost to private persons is not stated. The sweepings are taken outside the city limits, and largely used on gardens as a fertilizer.

Removal of garbage and ashes.—All garbage and ashes are removed by the householders. They are not allowed to be kept in the same vessels, and the board of health sees that the garbage is not thrown on the streets or kept on the premises long enough to become a nuisance. The final disposal of the former is by use as a fertilizer, while the latter is taken to swamps and hollow places and used as filling. Prior to the formation of the board of health the removal of garbage in some wards was defective, but now there is no trouble.

Dead animals.—The carcass of any animal dying within the city limits is removed and buried under the direction of the health officer. The annual cost to the city of this service is about \$100.

Liquid household wastes.—In those portions of the city where sewers exist the household wastes are run into them; where sewers do not exist the chamber-slops are thrown into privy-vaults, and the laundry wastes and kitchen-slops pass either into the gutters or cesspools, 75 per cent. going into the former and 25 per cent. into the latter. The cesspools are porous, are not provided with overflows, and, where the contents reach within a certain distance of the surface, are either cleaned by the scavengers or filled in with clay. The gutters are flushed only when it rains. In some parts of the city it is reported that the vaults and wells are so close together that the use of the latter has been discontinued.

Human excreta.—About one-half the houses in the city are provided with water-closets, 50 per cent. of which deliver into the sewers and 50 per cent. into cesspools, while the remainder depend on privy-vaults. All privy-vaults must be 10 feet deep, or, in the judgment of the health officer, not less than 6 feet or more than 20 feet. They are emptied by scavengers licensed for the purpose, between the hours of 11 p. m. and 4 a. m. during the months of May, June, July, August, September, and October, and between 10 p. m. and 6 a. m. during the other six months of the year, and the contents must be deposited in places designated by the board of health. The night-soil is finally disposed of by being used as a fertilizer, none of it being allowed on land within the gathering-ground of the public water-supply.

Manufacturing wastes.—There are no regulations as to the disposal of either solid or liquid manufacturing wastes.

POLICE.

The following concerning the police force of Scranton is taken from the annual report of the chief of police for the year ending March 31, 1879:

The present police force consists of 1 chief of police, salary \$1,000 per annum, and 1 sergeant, who does duty as roundsman and makes night reports, and 13 patrolmen, at \$720 a year each. During the year 534 arrests were made, the principal causes being for drunkenness, petty larceny, disorderly conduct, drunk and disorderly, etc. In the disposition of these, 126 were fined, 189 committed, 173 discharged, and 46 disposed of in various ways. The number of station-house lodgers was 398. The expense of the force for the year was \$10,392.

FIRE DEPARTMENT.

The annual report of the chief engineer for the year ending March 31, 1879, shows the following regarding the fire department of the city: The department consists of 10 equipped and 1 unequipped companies, numbering 321 officers and men. The apparatus consists of 4 steamers, 1 hand-engine, 13 hose-carriages, and 1 hook-and-ladder truck, of which the city owns 3 steamers, the hand-engine, the hook-and-ladder truck, and 1 hose-carriage, the rest of the apparatus belonging to the companies and (1 steamer) to the Citizens' Fire Association. The number of feet of hose on hand is 6,400, of which 2,500 feet are in good condition, the rest being mostly unfit for any service whatever. Water is taken from 114 hydrants belonging to the city and 22 owned by private corporations. The number of fires during the year was 55, involving a loss of \$51,150. The insurance on the same was \$192,000. The annual expenses were \$2,255 37.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Scranton for 1880, being taken from tables prepared for the Tenth Census by C. G. Boland, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	210	\$4,470,631	2,908	456	185	\$1,313,287	\$6,671,479	\$8,561,850
Blacksmithing (see also Wheelwrighting).....	19	16,200	21	.....	.....	8,035	9,334	31,335
Boots and shoes, including custom work and repairing.....	9	16,925	43	.....	1	15,276	28,100	66,674
Bread and other bakery products.....	1	91,200	33	4	5	19,633	52,038	96,304
Brick and tile.....	3	6,500	33	.....	.....	9,190	2,275	14,000
Carpentering.....	6	40,935	94	.....	.....	39,971	75,240	138,233
Carriages and wagons (see also Wheelwrighting).....	5	25,000	36	.....	.....	16,300	14,700	30,360
Flouring and grist-mill products.....	5	185,000	18	.....	.....	13,681	255,528	291,287
Foundry and machine-shop products.....	4	902,000	504	.....	5	203,486	312,021	630,190
Furniture.....	9	21,700	29	1	3	13,890	22,040	52,350
Grease and tallow.....	3	3,200	4	.....	.....	1,285	17,140	24,000
Iron and steel.....	4	2,204,000	1,534	.....	62	605,953	4,792,978	5,400,085
Liquors, malt.....	3	170,000	32	.....	.....	13,300	73,755	133,123
Lumber, planed.....	3	71,500	36	.....	3	16,838	28,520	50,550
Marble and stone work.....	5	12,900	24	.....	.....	9,296	16,761	33,005
Painting and paperhanging.....	4	2,345	29	.....	.....	13,168	11,850	34,907
Plumbing and gasfitting.....	3	16,875	19	.....	.....	9,500	35,725	52,775
Printing and publishing.....	12	81,100	91	3	34	51,176	44,658	117,017
Saddlery and harness.....	7	19,700	18	.....	.....	5,424	19,447	35,636
Tinware, copperware, and sheet-iron ware.....	13	91,725	47	.....	3	20,934	45,275	93,785
Tobacco, cigars and cigarettes.....	9	25,950	70	15	.....	26,390	45,750	87,050
Wheelwrighting (see also Blacksmithing; Carriages and wagons)...	4	2,600	3	.....	.....	1,150	1,850	5,760
All other industries (a).....	25	373,776	190	433	69	199,411	764,904	1,133,352

a Embracing agricultural implements; bookbinding and blank-book making; boxes, fancy and paper; brass castings; bridges; clothing, women's; coffee and spices, roasted and ground; confectionery; cutlery and edge tools; files; gas machines and meters; hairwork; looking-glass and picture frames; lumber, sawed scales and balances; silk and silk goods; slaughtering and meat-packing; tobacco, chewing, smoking, and snuff; upholstery; and wirework.

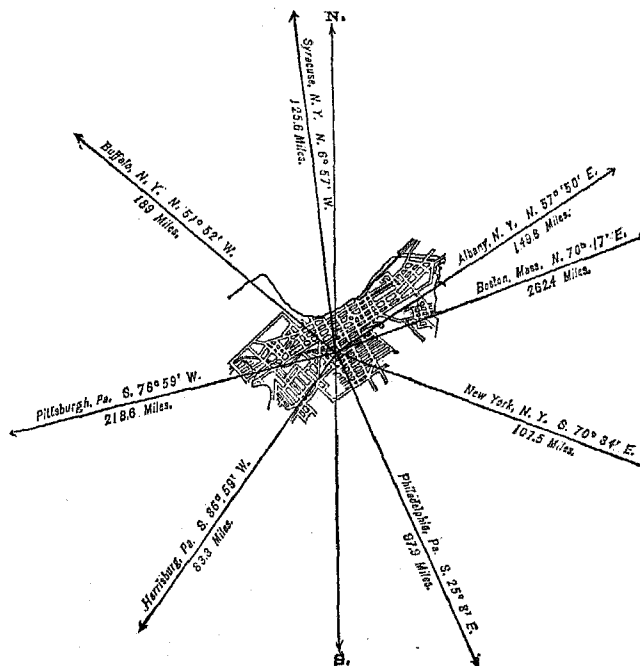
From the foregoing table it appears that the average capital of all establishments is \$20,697 37; that the average wages of all hands employed is \$370 04 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$38,208 35.

WILKESBARRE, LUZERNE COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	.....
1800.....	835
1810.....	1,225
1820.....	755
1830.....	2,232
1840.....	1,718
1850.....	2,723
1860.....	4,253
1870.....	10,174
1880.....	23,339



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male	11,451
Female	11,888
Native	17,039
Foreign-born	6,300
White.....	22,729
Colored	*610

*Including 1 Chinese.

Latitude: 41° 14' North; Longitude: 75° 56' (west from Greenwich); Altitude: 511 to 731 feet.

FINANCIAL CONDITION:

Total Valuation: \$3,134,180; per capita: \$134 00. Net Indebtedness: \$95,097; per capita: \$4 07. Tax per \$100: \$3 83.

HISTORICAL SKETCH. (a)

In the month of August, 1762, an organized party of men, principally from Cincinnati, established themselves on the eastern bank of the Susquehanna river, within the valley of Wyoming, at the confluence with the river of a stream of water known as Mill creek. They erected a block-house, and after a temporary sojourn returned to their former homes. This point is in the extreme northern bound of the city of Wilkesbarre. The following year

^a Sheldon Reynolds, esq., of Wilkesbarre, not only transmitted a large proportion of the detailed information concerning the present condition of the city, in response to schedules of interrogatories, but to him alone is due the careful historical sketch with which this report is introduced.

the same men, with some accessions to their number, returned, bringing their families, with the purpose of forming a permanent settlement. In October, 1763, the Indians of the neighboring village of Wyoming attacked the settlement, and killed about twenty of the inhabitants and took several prisoners; the rest fled to the mountains, and after enduring many privations finally made their way to New England.

This attempt to plant a colony was made under the auspices and authority of the Susquehanna Company of Connecticut, and upon the lands purchased by this company in 1754 of the Six Nations of Indians, with the intention of forming a colony west of the Delaware river and within the charter limits of Connecticut. It was claimed by the Susquehanna company—whose claim was afterward for a time espoused by Connecticut—that the Susquehanna purchase, as it was called, was within the charter limits of Connecticut. On the other hand, the proprietary government insisted that the territory in question was included in the charter to William Penn.

From these interfering claims arose a controversy which, in the words of Governor Hoyt, "evoked strong partisanship, and was urged on both sides by the highest skill of statesmen and lawyers. In its origin it was a controversy over the political jurisdiction and right of soil in a tract of country containing more than 5,000,000 acres of land, claimed by Pennsylvania and Connecticut, as embraced, respectively, in their charter grants. It involved the lives of hundreds, was the ruin of thousands, and cost the state millions. It wore out one entire generation. It was righteously settled in the end".

This contest, in 1769, upon the occasion of a secret attempt on the part of the Susquehanna company to take possession of the land, began to assume serious proportions, and for several years was carried on by the warring factions with great determination and violence. In 1782 the questions at issue were submitted for decision to a board of commissioners, which had been appointed for the purpose by Congress. They met at Trenton, and after a full hearing made an award in favor of Pennsylvania. The decree of Trenton, as it was called, disposed of, in fact, only the right of jurisdiction; the title to the soil, which to the actual participants was an issue of vastly more importance, remained practically undecided, and continued to be a lasting source of contention until it was "righteously settled" by act of the general assembly of Pennsylvania of 1799, and its supplements.

The proprietors of the Susquehanna company, having resumed possession of the disputed territory in 1769, thereafter continued, with the exception of short intervals, to hold the same. In the year 1770 several townships were surveyed, one of which was Wilkesbarre, deriving its name from two distinguished members of parliament, and active friends of the cause of the American colonies—John Wilkes and Colonel Isaac Barre. The second division, or town plot of Wilkesbarre, was laid out in July, 1770; the date generally given, 1772, is incorrect. Upon a plain of sufficient elevation for purposes of drainage, and beyond the reach of river-floods, a tract of land containing 200 acres was divided into 8 squares, with a central square for public buildings, and a stretch of land along the river-front for a common. The squares have since been divided, making their dimensions 1,000 by 500 feet. Two years later free schools were established, and provision was made for the support of the church. The general assembly of Connecticut, in 1774, erected part of the territory, including Wilkesbarre, into a separate town called Westmoreland, and annexed it to the county of Litchfield. By the same authority, in 1776, the town was erected into a county. Thereupon courts were established, the necessary officers elected, the militia was organized, and, the county having a sufficient population, two representatives were chosen to the general assembly of Connecticut. This municipal organization continued until the decree of Trenton.

The growing hostility of the Six Nations of Indians began, in the year 1776, to cause alarm, and serious apprehensions for the safety of the settlement were felt. Congress, being apprised of its defenseless and exposed condition, ordered the immediate enlistment from among the inhabitants of two companies of men for the protection of the settlement. The companies were equipped and their officers were appointed by Congress, and were known as "the two independent companies of Westmoreland". Instead, however, of being employed in the service for which they were enlisted—the protection of their homes and families—they were ordered to join, "with all possible expedition", the army under Washington, then retreating through New Jersey.

The departure of the companies, in addition to about 30 men previously recruited for the Continental army, renewed the dangers and left the inhabitants to their own resources. A frontier post located on the very borders of the Six Nations of Indians, beyond the reach of succor in case of sudden attack, deprived of its natural protectors, and without sufficient arms, the situation was desperate. In this emergency preparations were made for such defense as was possible. The forts in Wilkesbarre were strengthened, and forts were erected in the adjoining townships. The event which was felt to be inevitable, and which had become a source of such anxious forebodings, culminated on the 3d of July, 1778, in the battle and massacre of Wyoming, sweeping away the labor of years and carrying death and desolation to every hearthstone. Four hundred men and boys met on the open field an invading force of British troops, Tories, and Indians, well armed and equipped, and numbering 1,100. Three hundred of the settlers were slain in the encounter; widespread havoc, desolation, and ruin ensued. The village of Wilkesbarre, in common with the rest of the settlement, was plundered and reduced to ashes; the inhabitants fled, and the region was deserted. The two independent companies of Westmoreland, their numbers reduced by the vicissitudes of war, had been consolidated into one company. This company was ordered to Wyoming, and in August took possession of the ground and erected a fort at Wilkesbarre, which they garrisoned until the arrival, in the following year, of General John Sullivan, with an army of about 3,500 men. General Sullivan had been intrusted with the

command of an expedition against the Six Nations of Indians, the necessity for which had now become apparent. The army encamped about a month, while boats were being prepared for the transportation of the baggage and stores, and then proceeded up the river, where it was joined by a detachment under General Clinton. After a campaign of less than three months the army returned by the same route, having accomplished the destruction of many villages of the Six Nations and laid waste a large extent of their country.

During the two years succeeding the battle of Wyoming many of the surviving inhabitants returned, though a desultory warfare with the Indians still continued, and many marauding bands swept down upon the settlement from time to time, as opportunity offered.

The territory occupied by the Connecticut settlers, the political jurisdiction of which had been decided in 1782 to be in Pennsylvania, was in 1786 erected into the county of Luzerne, with Wilkesbarre as the county town. It had been, under the municipal division of Pennsylvania, embraced in the limits of Northampton county previously to the year 1772, and thereafter, until 1786, it became a part of Northumberland county. The village of Wilkesbarre was incorporated as a borough in 1806 and as a city in 1871, with additional territory.

The Susquehanna company had set apart for the support of schools and the church 400 acres of land in each township; in addition to this a tax of 3 pence in the pound was levied in 1773 for the purpose of schools, and subsequently similar taxes were assessed. In this year, 1773, three free schools were opened in Wilkesbarre township; they were continued with satisfactory results during the intervals when war, either with the Pennsylvania claimants or with Indians, was not actually waged in the vicinity, until 1782. After the cession of the jurisdiction of the region to Pennsylvania what opportunities of this kind were afforded is not definitely known; but it is believed that the sentiment which had prompted the rise and liberal provision for educational facilities in the past must have supplied some adequate instruction for the rising generation. In 1807 the Wilkesbarre academy was incorporated and received an appropriation from the state of \$2,000; experienced and able teachers were placed in charge of the schools, and facilities for higher education were provided. For many years it was conducted with signal success, preparing many students for admission to the best colleges of the country; its influence was far-reaching, and its results were of great and lasting benefit. The name was afterward changed to Wyoming academy, and it finally gave place to the high school established under the provision of the common-school system of the state. The Wilkesbarre female institute, chartered in 1854, under a careful management, has been an active factor in the educational work. It owns a large, well-constructed building, with ample grounds, besides a permanent fund sufficient for its present needs and future usefulness. The public schools of the city are part of the common-school system of the state; they are supplied with many commodious structures of a permanent character, and are equipped with most approved appliances. With a corps of teachers of high professional attainments and long experience, they afford the means for a common-school as well as an advanced classical education to all who choose to avail themselves of their benefits. The Wyoming Historical and Geological Society, founded in 1858, has exerted an influence on educational development, and fostered a spirit of historic and scientific inquiry. The library of the society contains about 4,000 volumes, and with pamphlets and manuscripts numbers about 6,500 titles; the cabinet, containing well-selected and classified collections, representing mineralogy, geology, paleontology, conchology, archeology, and botany, is available as a means of supplementing with practical methods the instruction received in schools, which in some cases is necessarily theoretical only. A suitable building for the purposes of the society, and hence a permanent location, has become assured through the beneficences of the late Judge Isaac S. Osterhout, who devised in trust an estate valued at \$300,000 for the establishment and maintenance of a free public library and the erection of a building for the purpose, making provision that the building should be so constructed as to furnish, in addition to the accommodations for the library, rooms sufficient for the uses of the society.

Few fires occurred previously to 1848, with the exception of that of 1778, mention of which has been made. In the year 1848 a conflagration swept a part of the south side of the public square and a portion of East Market street. Seven years later a large fire occurred; the entire east side of the public square was reduced to ashes; the loss was about \$50,000. The territory was soon rebuilt, however, a more substantial and commodious class of buildings being erected. In 1859 almost the entire north side of the public square and part of West Market street suffered a like disaster. The destruction of property on this occasion exceeded that of 1855, and, like that, caused much temporary distress and hinderance to the business interests of the town. A short time sufficed for rebuilding, and more permanent structures, better fitted for the demands of trade, soon sprang up. The fourth and last fire of any magnitude occurred in the spring of 1867. About one-half a block on each side of Market street and a few buildings on Franklin street were consumed; the loss amounted to \$91,000. This, like the previous fires, occurred in the business portion of the town, and, like them, was succeeded by great activity in repairing the loss by the erection of structures of greater utility and beauty. While each in its turn was an event of more or less disastrous consequences, neither was of such magnitude as materially to affect the industries of the town or to check its prosperity.

The rapid growth and prosperity of the city during the past twenty-five years are attributable, in great part, to the development of the coal interests in the vicinity. As early as 1768 anthracite coal was known to exist in the vicinity; its use as a fuel in 1769, by means of an air-blast, as in a blacksmith's forge, is recorded. During the period of the Revolutionary war about 20 tons were annually shipped from the locality down the Susquehanna

to Harrisburg, and thence carried in wagons to Carlisle, for use in the United States armory in that place. Subsequently coal was discovered at various points in the region, and its introduction to a more extended market began early in the present century, its utility for domestic purposes having been demonstrated previously to 1803. Oliver Evans succeeded, after a number of experiments, in attaining this result, showing the facility of the free combustion, without an air-blast, of the "stone coal", in "a close stove, and also in a fire-place that may be opened and closed at pleasure".

The chief obstacle to its use having been overcome, a few mines were opened, and in 1807 the continuing industry of mining coal in the Wyoming region was begun, though its introduction to general use was slow and attended with many difficulties. The product of the mines was carried to market by means of arks, which were floated down the Susquehanna river to tide-water. In 1812 anthracite coal from this vicinity was introduced into the New York market. The completion of the North Branch canal, in 1813, to the Wyoming region gave an impetus to the coal trade, furnishing a better transportation to tide-water. Capital from other sections of the country began to be invested in the industry. The construction of the Lehigh and Susquehanna railroad in 1843 gave the first rail transportation to the seaboard. The completion of the North Branch canal in 1856—opening communication with the canals of New York—and the building of the Lackawanna and Bloomsburg railroad, each made available an extended market. The several other lines of transportation constructed during the last twenty years, and the large amounts of capital invested in coal-mining by the carrying companies, have contributed in the largest degree to the continuous increase of production. The material income of Wilkesbarre has been in a measure proportionate to the activity of the coal trade, and her periods of depression in later years marked the languishing of that industry.

Having in 1820 a population of 732, an increase of 64 per cent. is seen in 1830; between the latter date and 1840, 43 per cent. increase over 1830 occurred; in the following decade, 59 per cent. over 1840; from 1850 to 1860, 56 per cent., and during the succeeding ten years, 139 per cent. increase over 1860—the population in 1870 being 10,174. Meantime the town had exceeded its limits, and the territory immediately adjoining it on three sides had been built upon and contained a considerable population. In 1871 the boundaries were extended so as to include this area; this fact, together with the natural growth, gave a population in 1880 of 23,339. The population during the early period of the town's history was almost exclusively of New England origin, and this element is still the prevailing one. The development of the resources of the region subsequently brought many inhabitants of various nationalities—Irish, German, and Welsh, and of numerical strength in the order named. The population of no one nationality has supplanted that of another.

The excellent facilities for railroad transportation, the abundance of cheap fuel, and the local demand for a great variety of manufactured articles rendered the location a promising field for the establishment of manufacturing industries. The manufactures of the city comprehend, among others of less importance, several extensive foundries and machine-shops, wire-rope works, wire-screen works, wagon factories, and sash-and-blind factories. While the products of many of these find a market in the neighborhood, those of others supply a demand at various distant points.

WILKESBARRE IN 1880.

LOCATION.

The city lies in latitude $41^{\circ} 14'$ north, longitude $75^{\circ} 56'$ west from Greenwich, on the left (east) bank of the North branch of the Susquehanna river, about 110 miles northeast from Harrisburg. The altitudes above sea-level are, average, 549 feet; lowest point, low-water mark of river, 511 feet, and highest point, 731 feet. The city is not on navigable water. A survey of the Susquehanna river from this point to the New York state line is being made, by authority of Congress, to determine whether the stream can be made available for purposes of navigation. An appropriation made by Congress several years ago was expended in the improvement of the river between Wilkesbarre and Nanticoke, a point 9 miles below, with the result of rendering that portion of the stream navigable for boats of 24 inches draught. The average river current here is 2 miles per hour.

RAILROAD COMMUNICATIONS.

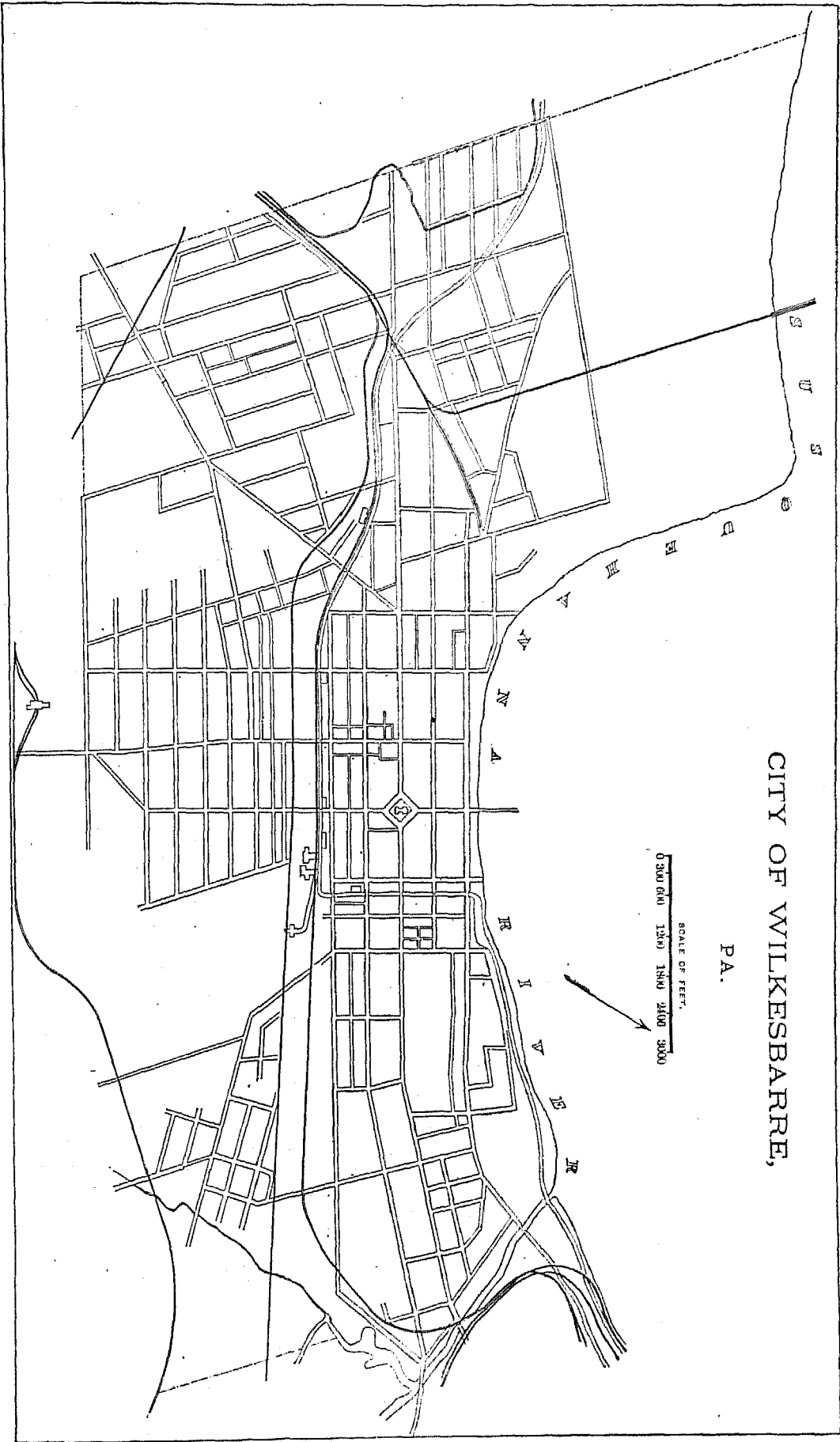
The Bloomsburg division of the Delaware, Lackawanna, and Western railroad connects at Scranton with the main line, and connects south at Northumberland with the Northern Central railway and the Philadelphia and Erie division of the Pennsylvania railroad.

The Lehigh and Susquehanna division of the Central Railway of New Jersey connects east at Phillipsburg with the main line, and at Bethlehem with the North Pennsylvania railroad, and connects north at Scranton with the Delaware and Hudson Canal Company's railroad.

CITY OF WILKESBARRRE,

P.A.

SCALE OF FEET.
0 300 600 1200 1800 2400 3000



The Lehigh Valley railroad connects east at Bethlehem with the North Pennsylvania railroad, and at Easton with the New Jersey division, and connects north at Pittston with the Pennsylvania and New York Canal and Railroad Company, and also with the Bloomsburg division of the Delaware, Lackawanna, and Western railroad.

The North and West Branch railroad, present terminus Wilkesbarre, connects south at Sunbury with the Northern Central railway and the Erie division of the Pennsylvania railroad.

TRIBUTARY COUNTRY.

A large portion of the tributary country consists of alluvial lands, much of which is well cultivated and productive; fertilizers are largely used. The agricultural production, however, is insufficient to supply the local demand. Underlying the land are several series of coal, and the continuous increase of the mining industry requires each year a considerable amount of the surface for purposes of building, places for deposit of mine waste (rock and slate), and pasturage for live stock employed in and about the mines. Furthermore, the water pumped from the mines, charged with impurities, destroys, in many instances, the production of the soil in the immediate vicinity of the works. Local industry and commerce are confined chiefly to coal-mining and the production of mine and railway supplies, such as lumber, powder, cars, and mining implements.

TOPOGRAPHY, ETC.

The central part of the city is alluvial, about 30 feet above low-water mark of the river. The north and east parts in the 1st ward are hilly and rocky, the natural drainage being to the river. There are no ponds or lakes in the immediate neighborhood. Three marshes which existed here twenty-five years ago have been filled with earth, and several others in the vicinity have entirely disappeared in that interval through the influence of coal-mining below water-level. Within a radius of 5 miles, from southeast to northwest, the country is open and the soil of about half this area is alluvial, the remaining half being hilly with argillaceous soil. From northeast to southwest (taking the opposite side of the compass) the country is hilly and mountainous, the latter being wooded with a light second growth of forest trees; the soil is shaly.

CLIMATE.

Highest recorded summer temperature, 99°; highest average summer temperature, 85.3°. Lowest recorded winter temperature, -22°; lowest winter temperature in average years, -8°. The moisture in the atmosphere of the locality is in excess of the amount resulting from exhalation and evaporation in the vicinity. It is believed to be caused by the combined influence of the winds and forests; the prevailing winds, being westerly, in the line of extensive and heavily timbered tracts of land, carry into the valley the moisture exhaled by these forests. The mountains immediately surrounding the valley range in height from 700 to 1,000 feet above the level of the city; to the west, however, and more remote, are mountains of 2,000 feet elevation above the city level. The effect of these elevated lands is to check the force of the winds, and, while modifying in a measure their influence, favors the lodgment in the valley of the moisture borne by the winds.

STREETS.

The total length of streets is 80 miles—all unpaved, except 2½ miles including the greater portion of the business streets, which are laid with cobble-stones. The cost per square yard for the cobble-stones, as nearly as may be estimated, is \$1 25. The sidewalks are of flagstone, all other kinds being prohibited by ordinance. On the paved streets the gutters are of cobble-stones, set with curbstones of sufficient depth and thickness. Except in the public square, tree-planting in the streets is done by the abutters at their own expense. The trees are set on the outer edge of the sidewalks, the varieties being maple, elm, ash, horse-chestnut, and linden, in relative numbers about in the order named. About three-quarters of the extent of streets are planted with trees. Work on streets is done by the city under supervision of the street commissioner, who employs laborers by the day and not by contract. The cost of construction and repairs during the past year was \$10,399 01. During 1879, \$7,439 40 was expended, and in 1878 the work on streets cost \$5,958 84. There are two horse-railroad lines in the city, with an aggregate length of 7 miles. There are 11 cars and 28 horses in use, and employment is furnished to 19 men. There were 305,598 passengers carried during the year, at rates of fare of from 5 to 10 cents. There are no regular omnibus lines in the city, but 6 vehicles, with 11 horses and 5 men, carry passengers to and from the railway stations at the uniform rate of fare of 25 cents, including baggage.

WATER-WORKS.

Water is supplied to the city by two private corporations. The Wilkesbarre Water Company—total cost of works \$325,000—supplies from natural head, with pumps for use when the supply by gravitation fails, with a pressure in the mains of 60 pounds to the square inch. The pumping apparatus consists of one Worthington duplex pump with a daily capacity of 1,500,000 gallons, and one Blake pump with a daily capacity of 800,000 gallons. The

yearly cost of maintenance, aside from the cost of pumping, is \$7,000. The Crystal Spring Water Company—total cost of works \$160,000—supplies from natural head only, and the pressure in the mains is 60 pounds to the square inch. The yearly cost of maintenance is \$1,200.

GAS.

The gas-works are owned by a private company. The daily average production is 60,000 cubic feet. The charge per 1,000 feet is \$2 25 net. Gas is not used at present to light the streets. The Globe Light Company now furnishes a light made from naphtha, receiving \$19 50 per annum for each street-lamp, 315 in number. In 1879 the city paid \$25 per annum each for 200 gas street-lamps.

PUBLIC BUILDINGS.

The city owns and occupies for municipal uses, wholly or in part, 1 city hall, used also for station-house and engine-house; 2 brick engine-houses, and 5 frame houses for hose-carriages. The estimated cost of the buildings is \$32,500. The city hall is a small brick building two stories high. The city owns a large lot in a central location, valued at \$19,000, upon which it proposes to erect a fitting structure for a city hall. The city contributed \$20,000 toward the erection of the county court-house, and in return receives the use of a large room on the second floor of the building, which is used as a council chamber, as an office for the city clerk, and for keeping the records.

PUBLIC PARKS AND PLEASURE-GROUNDS.

River Common, area 18 acres, stretches along the river-front 4,000 feet, with a depth varying from 100 to 3,500 feet, exclusive of the street, and is the only park in the city. It was originally of greater area than at present, having been encroached upon by the river and perhaps in other ways. When the town plot was surveyed in 1770 the greater part of the common was left unappropriated, and was regarded as public land. It has been used as a common ever since. The yearly cost of maintenance is inconsiderable, the care of the trees and grass being the chief items, and is paid for out of the appropriations for streets. It is provided with seats, and is policed in summer.

PLACES OF AMUSEMENT.

There is one theater in Wilkesbarre—Music hall—with a seating capacity of 1,133; it pays an annual license to the city of \$100. There are 4 halls—Landmesser's, Chahoon, Grossie's, and Weiss. They are situated on the second and third stories, and their seating capacity ranges from 400 to 800 each. Some have permanent stage and scenery, and all are used for lectures, concerts, church fairs, conventions, and balls. Old Fell house—garden and variety—size of lot 44 by 100 feet, has a hotel in connection with the garden; cost of garden fixtures and stage equipments, \$2,000; seating capacity, 200; used as a beer-garden and variety theater; small admission fee. "Howard's Amphitheater and Equine Exposition", opened as a garden in 1877; it cost \$6,000, and has a seating capacity of 300. Wyoming hall, built in 1873, cost \$8,000, seats 250, and was formerly known as Fred. Myer's opera-house. Atlanta garden, built about 1860; size of lot, 100 by 250 feet; 25 feet of front occupied by a hotel in connection with garden; hall in rear of lot also in connection with garden; the hall seats 750, and the garden a like number; total cost, including lot, \$25,000. The above are all largely patronized. In addition to these there are 6 so-called beer-gardens, seating about 250 each, without music; some of them are temporary.

DRAINAGE.

Aside from a few combined sewers in the center of the city, the drainage of Wilkesbarre has been much neglected. The subject is now being actively discussed with the view to the adoption of a comprehensive system, but no solution of the question has yet been reached. The discussion in its present stage relates chiefly to the comparative advantages of the combined and the separate systems.

CEMETERIES.

There are 7 cemeteries, now in use, connected with the city, as follows:

City Cemetery.—Area, 11 acres.

German Catholic Cemetery.—Area, $3\frac{1}{2}$ acres.

Irish Catholic Cemetery.—Area, $2\frac{3}{4}$ acres.

Jewish Cemetery.—Area, $\frac{1}{4}$ acre.

Hollenback Cemetery.—Area, $16\frac{1}{2}$ acres.

These are all located in the northern part of the city, in the 1st ward.

Saint Mary's Cemetery, Catholic (new).—Area, unknown; situated $1\frac{1}{2}$ mile southwest of the city.

Forty Fort Cemetery.—Area, 10 acres; situated $2\frac{1}{2}$ miles northeast of the city, on the opposite side of the river, in the village of Forty Fort, Kingston township.

There are 6 graveyards and burial-grounds in which interments are no longer made, viz: One on North street, head of Franklin street, area one-eighth of an acre; Saint Stephen's church-yard, same area; Presbyterian church-yard, on Franklin street, same area; Irish Catholic church-yard, on Canal street, area one-quarter of an acre;

Old City burial-ground, on Market street, area about 4 acres, and Boss burying-ground, Hazle avenue and Washington street, area one-quarter of an acre. The remains in these grounds, excepting the Irish Catholic one on Canal street, have been removed and reinterred, or are alleged to be, and the grounds are used for another purpose.

The total number of interments in the 7 cemeteries now in use, so far as past records show, is as follows: City cemetery, first interment made in 1870, 5,100; German Catholic cemetery, first interment made in 1862, 900; Irish Catholic cemetery, 1,100; Saint Mary's cemetery, 250; Jewish cemetery, first used in 1840, 200; Hollenback cemetery, first used in 1856, 2,247; and Forty Fort cemetery, in use since 1770, 5,000. Many of these interments were of remains transferred from other burying-grounds, and, in the case of the Irish Catholic cemetery, of persons brought from the surrounding country. The number of interments given, therefore, does not properly represent the city's dead. All burial permits are issued by the city clerk on certificates of the attending physician, and the depth of graves is 6 feet for an adult, and 5 feet for a child, from the surface of the ground to the bottom of the grave. The Hollenback cemetery and Forty Fort cemetery are owned by private corporations, chartered in 1854 and 1860, respectively. Lots are conveyed by deed for purposes of sepulture only. The former association allows no hedges about lots except those now standing, which are restricted in height to 4 feet. In both companies the lots are cared for by the owners. A departure from this policy is contemplated when a sufficient fund (permanent) is accumulated. The grounds are laid out in curving avenues and paths, the roads principally constructed of shale. In the Hollenback cemetery the avenues are skirted with grassed borders, 5 feet in width on each side, and are guttered with cobblestones on both sides 3 feet wide. In both cemeteries the plan of lots and avenues is made to conform to the topography of the ground. Permits and charges for interments are, adults \$4 and children \$3. Privilege of single graves, \$5, but in such cases no conveyance is given. The Hollenback Cemetery Association has a permanent fund of \$23,500, and the price of lots varies from \$60 to \$75. Lots in the Forty Fort cemetery cost from \$50 to \$60, according to location.

MARKETS.

There are no public or corporation markets in Wilkesbarre, but by ordinance the four sides of the public square are constituted a curbstone market—the east side for the sale of hay, straw, and stalks, and the other three sides for the sale of general market supplies. All four sides of the square are graded with clean coal ashes, and two sides are divided into spaces 12 feet long. These spaces are allotted by the street commissioner to persons applying for the same, for a term of one year, and the occupants of the spaces are allowed to use 4 feet on the sidewalks next their stands for benches, etc. The market days are Tuesdays, Thursdays, and Saturdays of each week, and the hours are from 5 a. m. to 11 p. m. The square is under the charge of the street commissioner, who sees that all ordinances governing the curbstone market are complied with.

SANITARY AUTHORITY.

The general health of the city is looked after by a sanitary committee, a committee of the city council appointed by the president of that body. The average annual expenses of the committee for the last six years are \$251 30, for medical attendance of prisoners in the lockup, services of sanitary officer, disinfectants, etc. No provisions for an increase of expenses in case of an epidemic have been made. In absence of epidemics the authority of the committee seems to be limited to the suppression of nuisances, but in case of an epidemic it has authority to take any steps necessary to check and control the disease. The chairman, with no salary, is the executive officer of the committee. He presides at meetings, and sees that the health ordinances are complied with. No health officers or assistants are employed, but the city employs the high constable for from one to four months annually to inspect cellars and back yards. The committee meets upon call of the chairman. Inspections are made regularly during the time the constable is employed, and at other times as nuisances are reported. When a nuisance is found or reported the parties responsible are ordered to remove it within a certain time, and if the order is not complied with they are taken before the mayor and fined. The inspection and correction of defective house-drainage, privy-vaults, cesspools, sources of drinking-water, etc., are made only when brought to the attention of the council. The committee has no control over the conservation and removal of garbage, the pollution of streams, or the removal of excrement. There are no regulations as to the burial of the dead, except in cases of death from a contagious disease, when the funeral must take place between 10 p. m. and 5 a. m.

INFECTIOUS DISEASES.

There has not been a case of small-pox in the city for six years, but in case one should occur the health regulations prescribe that the case be quarantined at home and the house flagged. If scarlet fever becomes epidemic, cases are isolated; if not, they are quarantined. The committee does not appear to exercise any control over the public or private schools in case of the breaking out of contagious diseases. There is no public pest-house. Vaccination is not compulsory, neither is it done at the public expense. Physicians are required to report to the health committee all cases of contagious diseases coming under their observation.

No registration of diseases or births is kept. A record of deaths, when interments are made in the public cemetery, is kept by the city clerk, and the secretaries of the other cemeteries keep similar records.

REPORTS.

The committee reports to the city council when business requires it, but such reports are not printed unless taken by the reporters of the daily press.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force. The work is done wholly by hand, no sweeping-machines being used. Gutters are cleaned about twice a year, and the sweepings are deposited upon the nearest low-lying ground. The cost of this service is not kept separate from other street work. Regarding the place of deposit for the sweepings, the mayor says that it is "the best we can do with it".

Removal of garbage and ashes.—These are removed by the householders, under the control of the police. There are no ordinances regarding the conservation of garbage pending removal, or forbidding the keeping of ashes and garbage in the same vessel. The final disposal of garbage "depends upon the locality of the premises", while the ashes are used for filling low grounds. No record of the service is kept.

Dead animals.—The carcass of any animal dying within the limits of the city is removed and buried by the high constable. About 200 dead animals are removed annually, at a cost of \$125.

Liquid household wastes.—Those houses connected with sewers dispose of their wastes in that way, but the large majority of wastes is run into cesspools, none being allowed to pass into street-gutters. The cesspools are porous, being sunk to the gravel, and are not provided with overflows, receive the wastes from water-closets, and are not governed by regulations in the matter of cleansing. The city being supplied with water from the mountains, there are no wells.

Human excreta.—Not more than one-fifth of the houses in the city are provided with water-closets, and the remainder depend on privy-vaults. By ordinance the vaults are required to be at least 6 feet deep, and the contents must not reach less than 2 feet from the top. When offensive they are treated as nuisances and ordered to be cleaned. The night-soil is dumped on farms in the suburbs of the city, none of it being allowed for manuring land within the gathering ground of the public water-supply.

Manufacturing wastes.—There are no regulations regarding the disposal of either liquid or solid manufacturing wastes.

POLICE.

The police force of Wilkesbarre is appointed by the city council, and governed by the mayor and chief of police under direction of the city council. The chief of police is the executive officer, and administers the force in accordance with rules and regulations making the usual provisions; his salary is \$1,000 per annum. The remainder of the force consists of 10 policemen, at \$720 a year each. The uniform is "navy-blue cloth, indigo-dyed, all wool, and of the style and patterns of the police force of New York city". The coats are double-breasted, with brass buttons, and helmet hats are worn. Each man provides his own uniform. The patrolmen are equipped with clubs (furnished by themselves), and wreath, number, badge, and shield, furnished by the city. The hours of service are from 6.30 p. m. to 4 or 5 a. m., according to the season, and from 7 a. m. to 6 p. m. The total length of streets patrolled by the force is 50 miles.

During the year 1880, 1,506 arrests were made, the principal causes being disorderly conduct, 392; drunkenness, 289; assault and battery, 134; larceny, 23; and "for not removing snow from pavement", 108. In their final disposition, 226 were committed to prison, and the rest fined, in default of payment being sent to prison or the work-house. No record was kept of the amount of property lost or stolen and reported to the police during the year, but \$629 was recovered and returned to the owners. During the same time there were 373 station-house lodgers cared for, as against 391 in 1879. Meals are furnished to station-house lodgers only in cases of absolute necessity, and no record is kept of the cost. The force is required to assist in every way possible at fires, to enforce sanitary regulations under the direction of the sanitary committee, and to see that no buildings are erected without permits or contrary to city ordinances. Special policemen are appointed by the city council when occasion requires, and when on duty have the same standing as the regular force. For 1880 the total cost of the police force was \$6,095 64.

MANUFACTURES.

The following is a summary of the statistics of the manufactures of Wilkesbarre for 1880, being taken from tables prepared for the Tenth Census by D. G. Allen, special agent:

Mechanical and manufacturing industries.	No. of estab-lishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	89	\$1, 146, 500	613	17	15	\$223, 399	\$680, 619	\$1, 133, 344
Blacksmithing.....	8	8, 450	15	.....	1	4, 906	4, 760	16, 750
Bread and other bakery products.....	11	16, 050	41	7	2	12, 075	79, 092	121, 298
Carriages and wagons.....	5	19, 500	39	.....	.....	12, 237	13, 000	37, 600
Flouring and grist-mill products.....	3	34, 000	14	.....	.....	4, 480	65, 850	77, 200
Foundry and machine-shop products.....	6	321, 950	226	.....	.....	85, 851	153, 434	297, 660
Lumber, planed.....	3	44, 000	15	.....	.....	5, 100	13, 600	24, 600
Mineral and soda waters.....	3	15, 200	9	.....	.....	3, 575	10, 500	20, 025
Plumbing and gasfitting.....	3	77, 000	34	.....	1	11, 600	20, 000	40, 500
Saddlery and harness.....	7	22, 300	18	.....	.....	6, 750	12, 020	27, 200
Tinware, copperware, and sheet-iron ware.....	7	12, 500	20	.....	.....	6, 228	12, 950	25, 300
Tobacco, cigars and cigarettes.....	5	9, 700	26	.....	6	9, 254	17, 246	33, 298
All other industries (a).....	28	570, 850	156	10	5	61, 283	258, 197	411, 313

a Embracing awnings and tents; bookbinding and blank-book making; boots and shoes; boxes, fancy and paper; brick and tile; brooms and brushes; carpentering; confectionery; liquors, malt; lock and gun-smithing; looking-glass and picture frames; musical instruments, organs and materials; paints; printing and publishing; pumps; soap and candles; stone and earthen-ware; tools; wheelwrighting; wire; wirework; and wood, turned and carved.

From the foregoing table it appears that the average capital of all establishments is \$12,882 02; that the average wages of all hands employed is \$346 36 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$10,706 04.

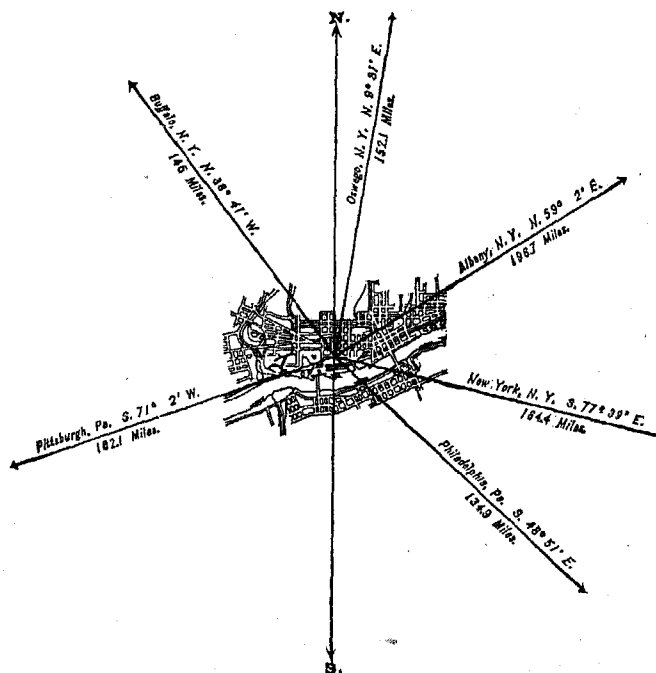
WILLIAMSPORT,

LYCOMING COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	
1800.....	131
1810.....	344
1820.....	624
1830.....	
1840.....	1,353
1850.....	1,615
1860.....	5,664
1870.....	16,030
1880.....	18,934



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

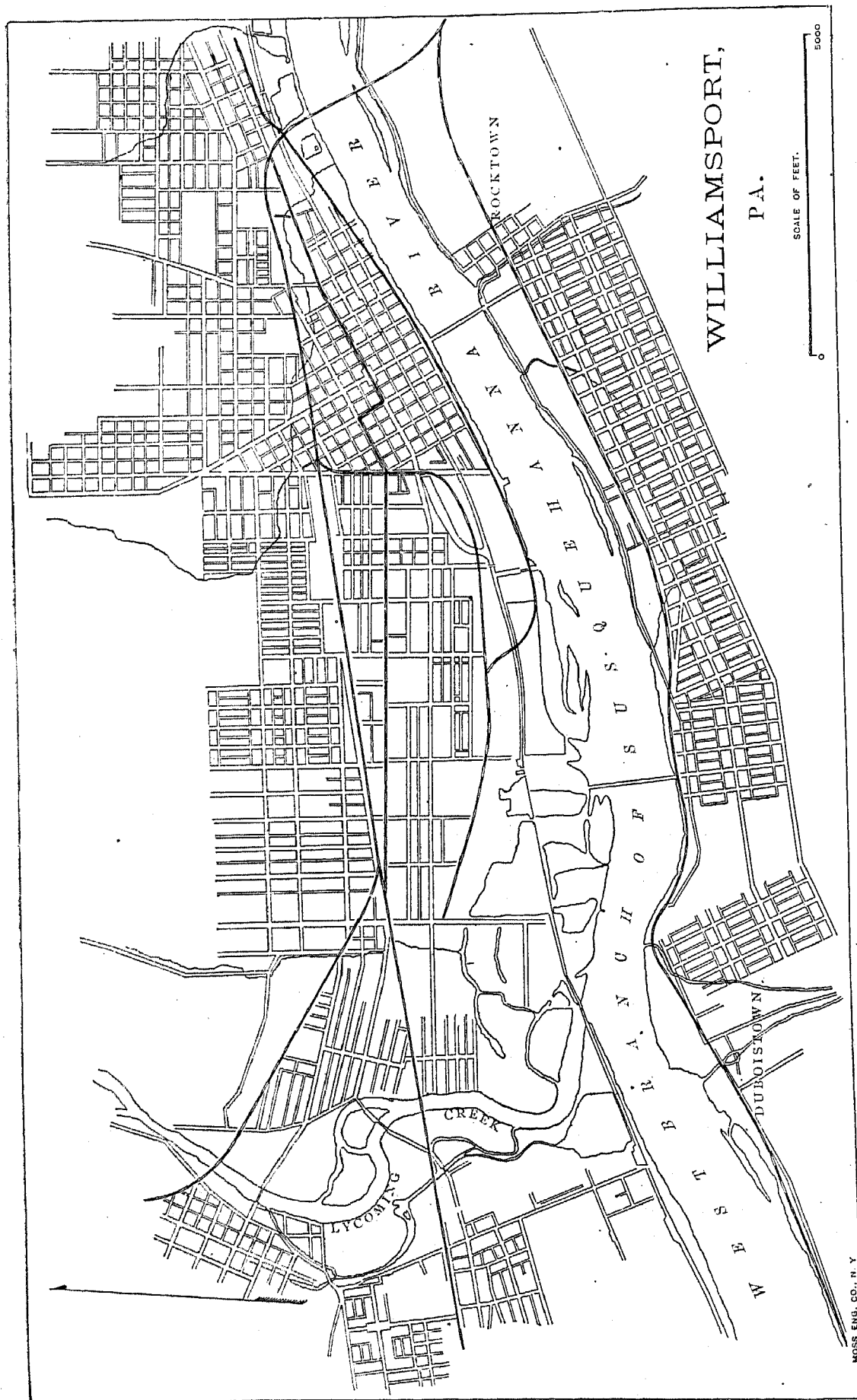
Male	9,129
Female	9,805
Native.....	16,636
Foreign-born	2,298
White.....	18,134
Colored.....	800

Latitude: 41° 15' North; Longitude: 77° 4' (west from Greenwich); Altitude: 533 feet. (a)

FINANCIAL CONDITION:

Total Valuation: \$6,731,820; per capita: \$356 00. Net Indebtedness: \$651,272; per capita: \$34 40. Tax per \$100: \$1 70.

NOTE.—Williamsport was selected as the county-seat of Lycoming county upon the organization of the latter in 1795. It was chartered as a city in 1861, since which time its growth has been very rapid. It derives its chief importance from its lumber industry, which is very large. Here is located a boom for catching logs coming down the West branch of the Susquehanna, which cost over \$1,000,000. The city is built on a plain at the foot of the hills, and is well and regularly laid out. In summer it is quite a place of resort, on account of its healthfulness and the beauty of its scenery.



WILLIAMSPORT IN 1880.

The following meager statistics are all that were furnished by the city authorities to indicate the present condition of Williamsport:

LOCATION.

The city lies in latitude $41^{\circ} 15'$ north, longitude $77^{\circ} 4'$ west from Greenwich, on the north bank of the West branch of the Susquehanna river, 202 miles northwest from Philadelphia. The West branch is not navigable.

RAILROAD COMMUNICATIONS.

Williamsport is touched by the following railroads:

The Philadelphia and Erie division of the Pennsylvania railroad, termini Erie and Philadelphia.

The Northern Central railroad, termini Baltimore and Rochester.

The Catawissa and Williamsport branch of the Philadelphia and Reading railroad, termini Williamsport and Philadelphia.

STREETS.

Two miles of streets in the city are paved with wood. Sidewalks are paved with wood, stone, and brick. Some of the gutters are paved and some are unpaved. Contract work is preferred on the streets. Neither a steam stone-crusher nor a steam-roller is used. There are 2 miles of horse-railroads with 6 cars, and the rate of fare is 5 cents. There are no omnibus lines.

WATER-WORKS.

The water-supply is taken from two mountain springs and conducted in pipes under the river to the city.

GAS.

Gas is supplied by a private corporation, at a charge to consumers of \$3 50 per 1,000 feet.

PUBLIC PARKS AND PLEASURE-GROUNDS.

Williamsport's interest in these is confined to an acre of ground, which has never been improved as a park.

PLACES OF AMUSEMENT.

There are the following theaters, halls, and lecture-rooms in the city: Academy of Music, seating 1,000; opera-house, seating 800; Young Men's Christian Association rooms, seating 500; and Walker's hall, seating 500. Theaters pay a license fee to the city of \$5 per each day used. There are also the following concert- and beer-gardens: Spring garden, seating 1,500, and Walhalla garden, seating 200.

DRAINAGE.

No report on this subject was received.

CEMETERIES.

Williamsport has five public and private cemeteries and burying-grounds, but nothing concerning them was reported.

MARKETS.

No report on this subject was received.

SANITARY AUTHORITY—BOARD OF HEALTH.

The chief sanitary authority of Williamsport is the board of health, an independent body elected by the city council. The council has no power over the actions of the board, but may remove any or all of the members at pleasure. The board consists of 8 members, 1 from each ward in the city, 2 of whom must be physicians, with the city clerk and treasurer, who are also *ex officio* clerk and treasurer of the board. In ordinary times the expenses of the board are slight, chiefly for labor, and amounted in the past year to but \$71 51. But the board is not limited in this regard, and all its expenditures are chargeable upon the city. The board is given, by act of the state legislature, large powers in the direction of the proper sanitation of the city. It can quarantine persons sick or infected with contagious diseases, or remove the same to a pest-house, enter premises, abate nuisances, and make such regulations as may be deemed necessary for the public health. During an epidemic the board has power to do all things needful to check and control the same. The chief of police executes all the orders of the board, but receives for this service no additional

compensation. The board's business is transacted at regular meetings held once a month, or special meetings called by the clerk at the request of the president or any two members. A majority of the members constitutes a quorum. No assistant health officers are employed, and inspections are not made regularly. When nuisances are reported they are referred to the sanitary committee, which, if it thinks necessary, orders their abatement. When complaints are made of defective house-drainage, privy-vaults, cesspools, or sources of drinking-water, the board takes charge of the matter. Ordinary cases of defective sewerage, street-cleaning, etc., the city authorities take charge of. Unless garbage becomes a nuisance it does not receive the attention of the board. The board requires that persons dying of small-pox shall be buried within twenty-four hours. All physicians are required to report to the board every death occurring in their practice. No interment is allowed except on permit from the board, and the sexton or superintendent of each cemetery must keep a record of all burials made in his cemetery. The board has full control over the removal of excrement, and licenses persons for that purpose.

INFECTIOUS DISEASES.

Small-pox patients are isolated in their own homes, and extra efforts are made to render their rooms, furniture, bedding, etc., innocuous, or they are sent to the city pest-house, situated away from the thickly settled part of the city. The city clerk keeps a record of all births, marriages, and deaths. A record of contagious diseases is kept by the board, to whom all physicians are required to report.

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned at the expense of the city and with its regular force. The work is done wholly by hand no sweeping-machines being used. The cleaning is not done at specified times, and it is not done very efficiently.

Removal of garbage and ashes.—Garbage is removed by the city with its force. No information is given of the final disposal of either garbage or ashes.

Dead animals.—The carcass of any animal dying within the limits of the city is removed by the board of health and properly buried.

Liquid household wastes.—The slops from sleeping-rooms are disposed of in the same way as laundry wastes and kitchen-slops. None of the liquid household wastes run into gutters; a portion is delivered into sewers and a part into cesspools, the latter including the wastes from water-closets.

Human excreta.—By a rule of the board of health, privy-vaults must be 20 feet deep, unless there exists, in the judgment of the sanitary committee, a good reason, as rock or running water struck, why they should not be dug to this depth, in which case the committee can change the depth, provided that it be not less than 6 feet. Privy-vaults are cleaned out by the odorless-excavator system, at such times and in such manner as may be prescribed by the board of health. The night-soil is taken out of the city and deposited in some place designated by the board, none of it being allowed for manuring land within the gathering-ground of the public water-supply.

POLICE.

The police force of Williamsport is appointed by the mayor, confirmed by the select council, and governed by the mayor. The chief executive officer is the chief of police. His duties are the immediate management and direction of the force; his salary is \$600 per annum. The rest of the force consists of a captain of the night watch and 10 patrolmen, at a salary of \$40 per month each. The uniform is of navy-blue cloth, and of the style prescribed by the mayor. The men provide their own uniform. Patrolmen are furnished by the city with belts and batons; any other arms are provided by themselves. The hours of service are from 6 p. m. to 4 a. m. for night men, and from 6 a. m. to 9 p. m. for day men. The longest beat is $4\frac{1}{2}$ miles. The principal causes of arrest are for drunkenness and disorderly conduct. The chief of police is required, upon an alarm of fire, to take a number of the force with him and proceed to the fire, for the purpose of protecting property and preserving order. No special policemen are appointed. The cost of the police force during the past year was \$6,191 75.

FIRE DEPARTMENT.

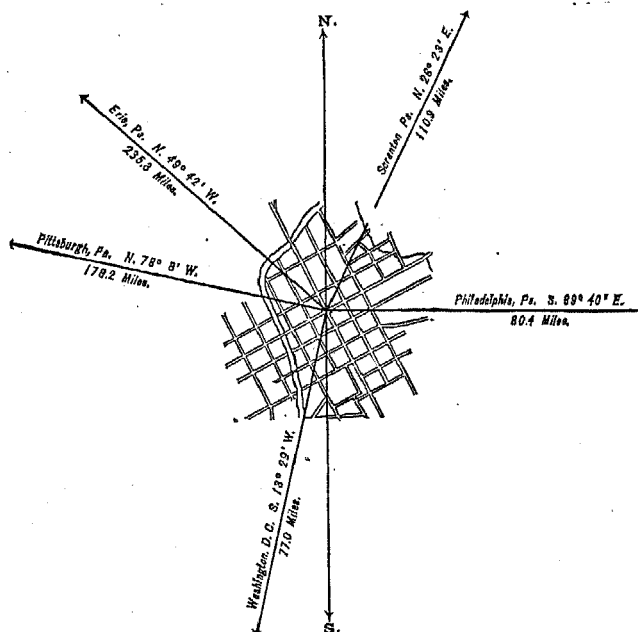
The apparatus consists of 3 steam fire-engines, 4 hose-carriages, and 1 hook-and-ladder truck, in service, and 1 hand-engine and 3 hose-carriages, old and not used. There are 1,966 feet of good and 2,712 feet of old hose. There are 10 horses in the department. There is also a fire-alarm telegraph. The cost of the fire department to the city for the past year was \$14,973 58.

YORK, YORK COUNTY, PENNSYLVANIA.

POPULATION

IN THE
AGGREGATE,
1800-1880.

	Inhab.
1790.....	.....
1800.....	2,503
1810.....	2,847
1820.....	3,545
1830.....	4,216
1840.....	4,779
1850.....	6,863
1860.....	8,605
1870.....	11,003
1880.....	13,940



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	6,668
Female.....	7,272
<hr/>	
Native.....	12,803
Foreign-born.....	1,047
<hr/>	
White.....	13,539
Colored.....	* 401
<hr/>	
* Including 1 Chinese.	

Latitude: 39° 58' North; Longitude: 76° 40' (west from Greenwich); Altitude: 316 to 630 feet.

FINANCIAL CONDITION:

Total Valuation: \$6,236,637; per capita: \$447 00. Net Indebtedness: \$33,000; per capita: \$2 37. Tax per \$100: \$1 24.

HISTORICAL SKETCH.

York, the largest borough of Pennsylvania, was laid out by the orders of John and Thomas Penn, who in 1741 directed the deputy surveyor of Lancaster county to lay out a town "on or near Codorus creek". The site chosen by the surveyor was particularly eligible, since it was at the intersection of two important roads; and hardly were the lots surveyed when purchasers presented themselves. The early settlers were mainly Germans, and their descendants still form an important element of the population. German was for years the leading language, and even to-day, in the corrupt form known as "Pennsylvania Dutch", it is used by many citizens.

Eight years after the founding of York it was made the shire town of York county; and in 1756 a court-house was erected for the accommodation of the county tribunals, which had previously been held in private houses. In

the period immediately preceding the Revolution the people of York were especially noticeable by their determined tone of opposition to the mother country; and in September, 1777, the Continental Congress, which had been sitting at Lancaster since the capture of Philadelphia by the British, moved to York for greater safety, and continued its sessions there until June 27, 1778.

In 1787 York was incorporated as a borough, and remained a quiet and prosperous town, in which no event of special importance occurred until 1803. In that year it suffered considerable annoyance, though little real loss, from a series of incendiary fires, started by the negroes of the town in revenge for the punishment of a colored offender. The year 1817 was made memorable by a flood in Codorus creek, which was suddenly swollen in August by heavy rains, and overflowed its banks, sweeping away several dams and bridges and inundating the town. Ten lives were lost in the inundation, and property to the value of \$200,000 was destroyed.

In 1806 a public water-supply was introduced, the water being brought from near the foot of Slate ridge to a reservoir in the southeastern part of the town. With additions from Codorus creek the same water-supply is still in use. The growth of York was facilitated in 1833 by improvements made in the Codorus, rendering it practically a canal, and opening water communication with the Susquehanna river; and the town's importance was still further increased by the completion of the Baltimore and Susquehanna railroad to York in 1839. The old court-house was replaced in 1842 by a fine stone building, imitating in shape a Grecian temple, and forming to-day one of the chief ornaments of the town. From this time until the civil war the increase was steady. In 1863 the Confederate General Early made a descent upon the town and wrung from it a contribution of \$100,000.

Recovering from this misfortune, York has gone on increasing in wealth and population. It has extensive iron manufactories, three large car-shops, a shoe, a whip, a button, and a match factory, several tanneries, cotton- and paper-mills, and works for the manufacture of agricultural implements. There are 7 banks, and 6 weekly and 2 daily newspapers. An academy, a young ladies' college, and the York Collegiate Institute, besides the public schools, offer excellent educational advantages. There are many churches, some of the edifices being exceptionally fine.

YORK IN 1880.

The following statistical accounts, collected by the Census Office, indicate the present condition of York:

LOCATION.

York is situated in latitude 39° 58' north, and longitude 76° 40' west from Greenwich, on Codorus creek, a small tributary of the Susquehanna river, about 57 miles by rail north by west from Baltimore, Maryland, and 28 miles south by east from Harrisburg, Pennsylvania. The lowest point is 316 feet, the highest 630 feet above the sea-level, the average level being 430 feet. The Codorus is not a navigable stream, but in 1833 was converted into a canal to the Susquehanna. The canal is, however, abandoned.

RAILROAD COMMUNICATIONS.

The town is on the Frederick division of the Pennsylvania railroad, which connects it by way of Columbia and Lancaster with Philadelphia. The Northern Central railroad—termini Baltimore, Maryland, and Canandaigua, New York—connects York with these two important points. The Peach Bottom railway (narrow-gauge), termini Oxford and Delta, Pennsylvania, passes through the town, connecting there with the Pennsylvania and Northern Central railroads, and at Oxford with the Philadelphia and Baltimore Central railroad. These roads give excellent communication with both local and distant commercial points.

TRIBUTARY COUNTRY.

The country immediately surrounding York is almost entirely devoted to agriculture, although there are several steam grist-mills in the vicinity. With this district the town has an important local trade.

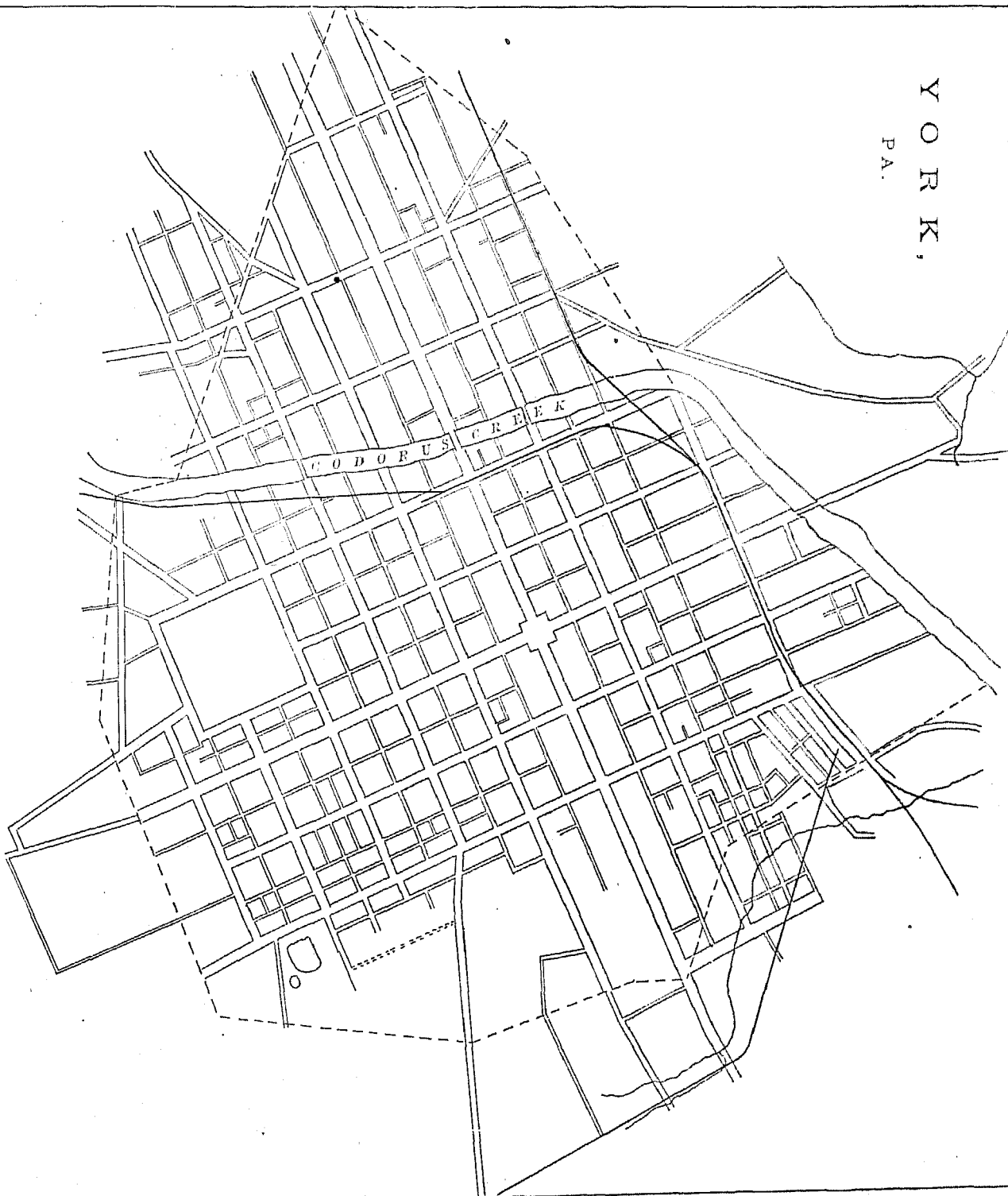
TOPOGRAPHY.

The soil of the region about the town is principally clay and sand resting upon limestone, red sandstone, and granite. The country possesses inexhaustible slate quarries. There is but little marsh-land, and only few ponds. Considerable wood is still standing on most of the farms.

CLIMATE.

The highest recorded summer temperature is 107°, the highest in average years being 92°. The lowest recorded winter temperature is -4°, while in average years the thermometer does not fall below zero.

Y O R K ,
P A .



STREETS.

The larger part of the 15 miles of streets which York is reported to have is paved with broken stone; the rest are simply dirt roads. The broken stone is purchased by the town at 90 cents per perch, and the total cost of keeping the streets in repair is stated to be \$7,000 per year. The sidewalks are of brick and the gutters of brick and ironstone. Shade-trees are planted in large numbers by the householders along every thoroughfare.

There are 6 omnibuses used in carrying passengers about the town. These use 24 horses and employ 16 men. The rate of fare is 5 cents.

WATER-WORKS.

The total cost of the works for the public water-supply, which are owned by a private company, is said to be \$50,000. The supply is obtained from springs and distributed by a gravitation system, which is, however, supplemented during dry seasons in the summer months by pumping from Codorus creek. The income from water-rates can not be ascertained, but it is known that the stock of the company pays from 16 to 18 per cent. profit, and that it is quoted at \$90 per share, the original value of which was \$25.

GAS.

York is supplied with gas by a private corporation, which charges \$2 10 per 1,000 cubic feet. The borough pays \$2 per 1,000 cubic feet for gas consumed by its 410 street-lamps.

PUBLIC BUILDINGS.

The only buildings stated by the clerk of the borough to belong to the borough and to be used for municipal purposes are 4 large engine-houses and 2 market-sheds. These are valued at \$38,000.

PUBLIC PARKS AND PLEASURE-GROUNDS.

In the southern part of the borough is an area of 16 acres, known as the *Public Commons*, which constitutes the only park in York. It was donated by the Penn heirs. The cost of its maintenance can not be stated.

PLACES OF AMUSEMENT.

York has an opera-house with a seating capacity of 1,200, and two public halls—Odd Fellows' hall, seating 580, and Masonic hall, seating 300. Each of these pays a license to the borough.

A concert- and beer-garden, known as the City Hall Summer garden, constructed in 1872, is well patronized.

DRAINAGE.

The information concerning the sewerage of the city is too meager to justify its insertion here.

CEMETERIES.

York has 2 cemeteries, one of 100 acres, situated north of the borough; the other, of 4 acres, south of York, both beyond the borough limits. No detailed information in regard to the names, management, location, or number of interments in these burial-places could be obtained.

MARKETS.

The public market of York is a building containing 40 stalls and controlling 500 stands, ranging from 4 to 16 feet, on the curbstone and open space in Center square. The rental of these stalls and stands varies from \$4 to \$40 each per annum, and yields a total rental to the borough of about \$3,500. There are also two markets controlled by private corporations. The building known as the York City market is a fine one, and cost nearly \$50,000. Its rental yields \$2,000 per annum. The public market is open daily from 3 to 9 a. m., the private ones from 9 a. m. to 12 m. The gross amount of the annual sales could not be obtained. These markets probably supply ten times as many people as the private shops.

SANITARY AUTHORITY.

The maintenance of the public health is intrusted to a health officer, who is appointed by the town council, and has a general supervision of all that pertains to the sanitary condition of the borough. He is given power to take all precautions against the existence or spread of epidemics, to enter and inspect places where he suspects a nuisance or any thing prejudicial to the public health to exist, and to require any such nuisance to be abated. Before taking any decided action he is compelled to report to the town council, or to a health committee of that body, and receive their permission before proceeding further. The commands of the health officer are served by the chief of police on all offenders, and those refusing to obey them are subject to a fine. The health officer himself

has no police powers other than to enter and inspect premises. His salary is \$100 per year, but in case of the existence of an epidemic he is allowed an additional sum. All physicians are required to report any cases of infectious or contagious diseases which may come under their notice. The health officer can enforce vaccination when he thinks it necessary, and at such times performs the vaccinations at the public expense.

Small-pox patients are quarantined at home, as there is no public pest-house. Scarlet-fever patients are not isolated or quarantined in any way. There is no system of registration of births, diseases, and deaths; and while an annual report is made by the health officer to the town council, this report is not published.

MUNICIPAL CLEANSING.

Street-cleaning is done by the borough with its own force, and entirely by hand. The streets are cleaned regularly, so the clerk of the borough states, at an annual cost of \$2,000. The sweepings are used on farms as a fertilizer.

Removal of garbage and ashes.—Garbage and ashes are removed by the borough at an annual expense of \$2,000. No regulations govern the conservation of garbage while awaiting removal, and it can be kept at will in the same vessel with ashes. It is disposed of by using it as manure.

Dead animals are removed by the owners and buried or sold to glue manufacturers. This system places no expense on the borough.

Liquid household wastes.—Laundry and kitchen wastes are disposed of by running them into cesspools, only very little going into the public sewers, such as they are. Chamber-slops are disposed of in the same way. The cesspools are nearly always porous. No wastes go into the street-gutters. The cesspools, which in many cases receive the wastes from water-closets, must be cleansed during specified hours of the night. The contents are generally delivered to the manufacturers of fertilizers.

Human excreta.—The number of houses depending on privy-vaults, and of those provided with water-closets, is about the same. Three-quarters of the water-closets empty into cesspools, the other quarter going into the sewers. Perhaps one-half of the vaults and cesspools are nominally water-tight. The method of cleaning and the disposal of the night-soil has been given above.

Manufacturing wastes.—Liquid manufacturing wastes nearly all run into the Codorus creek. What becomes of the solid wastes is not stated.

POLICE.

The chief of police is elected at the municipal election by the citizens, the rest of the force being appointed by the chief burgess, who is its head and by whom the force is governed. The chief executive officer is the chief of police or high constable, who receives a salary of \$40 per month, and has the general supervision and command of the force, which consists of 1 lieutenant and 10 patrolmen, who each receive \$35 per month. The uniform is of navy-blue cloth, and is cut in the style of the uniform of the New York city police; each man provides his own. The men are equipped with a revolver, twisters, and a billy, are on duty from 6 p. m. to 5 a. m., and patrol all the streets in the city. No record of the number or causes of arrests, of property lost or stolen, recovered by the police, or of the number of station-house lodgers, has been kept. The force is required to assist the fire department at all fires, and the health officer by reporting nuisances. Special police are appointed by the chief burgess for occasions when their assistance seems likely to be needed. They are treated as members of the regular force for the period of their appointment. The cost of the department during the past year was \$5,100.

DELAWARE.

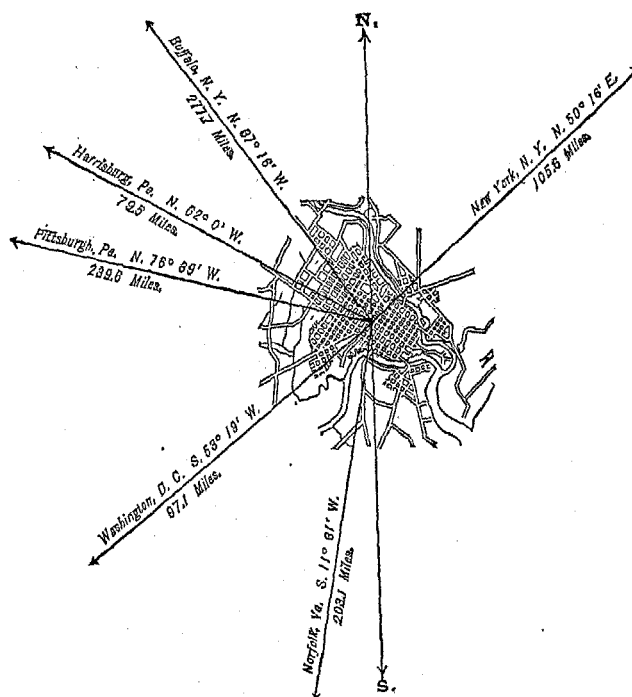
WILMINGTON,

NEW CASTLE COUNTY, DELAWARE.

POPULATION

IN THE
AGGREGATE,
1840-1880.

	Inhab.
1790.....	
1800.....	
1810.....	
1820.....	
1830.....	
1840.....	8,367
1850.....	13,979
1860.....	21,258
1870.....	30,841
1880.....	42,478



POPULATION

BY
SEX, NATIVITY, AND RACE,
AT
CENSUS OF 1880.

Male.....	20,751
Female.....	21,727
Native.....	36,804
Foreign-born.....	5,674
White.....	37,004
Colored.....	*5,474
*Including 1 Chinese and 5 Indians.	

Latitude: 39° 44' North; Longitude: 75° 33' (west from Greenwich).

FINANCIAL CONDITION:

Total Valuation: \$23,200,000; per capita: \$546 00. Net Indebtedness: \$1,372,450; per capita: \$32 31. Tax per \$100: \$1 49.

HISTORICAL SKETCH.

A little more than 240 years ago a party of Swedes, under the leadership of one Peter Minuit, established themselves along Brandywine creek, on lands now within the city of Wilmington, Delaware. They purchased their lands from the Indians at the time of the settlement, 1638, and remained in peaceful enjoyment of them until 1655, when they were attacked and defeated by the Dutch, from New York, who made themselves masters of the Swedish possessions. The new masters did not hold their conquest many years, for in 1664 the Dutch possessions

in America were ceded to England, and Wilmington thus passed from Dutch into English hands. It is not likely, however, that these changes in the supreme government affected greatly the private estates of the settlers, or tended to check the growth of the little village.

The settlement of the Swedes was in the western part of Wilmington, and it was not until 1731 that the central portion of the city was founded. Wilmington lies between the Brandywine and Christiana creeks, and owes to them its early importance. The Brandywine furnished an excellent water-power, and the Christiana enabled vessels of 14 feet draft to come up to the town; for, although the corporate limits extended to the Delaware river, the inhabited portion is between the creeks and about their junction, a mile and a half back from the Delaware. Wilmington early made for itself a reputation as a manufacturing town, the powder-mills of the Brandywine, a little above the city, antedating the Revolution; but its chief importance has come within the present century. A public water-supply was introduced about 1827, the water being taken from the Brandywine.

Wilmington was made a city in 1832, but its rapid increase in wealth and numbers did not begin until about fifteen years later. In 1850 the population was 13,979, having doubled since 1830. The flouring-mills were among the largest in the country, and the city was the center of the largest manufacturing districts in the United States south of Philadelphia. Its agricultural interests were also important, as the country about it is one of the most fertile in the middle states.

The rapid rate of progress then begun has since been maintained, and the large increase in population is not due, as in many places, to increase of territory. The city is small in area, as it covers only 7.6 square miles; but within that space there are now living 42,478 inhabitants—three times as many as in 1850.

In 1873, just before the great commercial crisis, the capital invested in manufactures was \$12,725,000, and the value of the annual products \$21,000,000. The leading productions were machines, morocco and other leather, castings, car-wheels, railroad-cars, carriages and wagons, iron ships, paper, powder and chemicals, and other products too numerous to mention.

The crisis does not seem to have greatly diminished the city's prosperity, as the population has increased over 12,000 since 1870.

To encourage the investment of manufacturing capital in the city the large tracts of land lying between the creeks and the Delaware have been set apart, and are exempt from taxation for a period of ten years for those who will establish factories upon them.

The city has long held an enviable reputation for its schools, both public and private. There are about 50 churches, among them the Old Swedes' church, which was built in 1698, and is still in a good state of preservation. The Wilmington Institute, founded in 1859, has a library of over 13,000 volumes, which is open to the shareholders of the institute, and, on the payment of a moderate sum, to the public.

WILMINGTON IN 1880.

The present condition of the city may be seen from the following statistical accounts which the Census Office has collected:

LOCATION.

Wilmington is situated in latitude 39° 44' north, and longitude 75° 33' west from Greenwich, between the Brandywine and Christiana creeks, near their confluence. The city limits extend to the Delaware river, but the built-up portion of the city is some 2 miles west of the Delaware, and half a mile west of the junction of the Brandywine and Christiana. West of the city the land rises to the height of about 200 feet, and slopes gradually toward the Delaware.

The Christiana is navigable for vessels drawing 14 feet of water, the depth at low tide being 11 and at high tide 18 feet. The Brandywine is navigable for vessels of 7 feet draught, while the Delaware opposite Christiana avenue is 28 feet deep. No wharves have been built along the latter river, but wharves extend 6 miles along the two creeks. The harbor capacity is ample, the channel varying from 200 to 400 feet in width. The tidal current runs at the rate of about 4 miles per hour. Steamboat lines connect the city with Philadelphia and New York.

RAILROAD COMMUNICATIONS.

The following railroads touch Wilmington:

The Philadelphia, Wilmington, and Baltimore railroad, termini Philadelphia and Baltimore.

The Delaware Western railroad, termini Wilmington and Landenburg.

The Wilmington and Northern railroad, termini Wilmington, and Reading, Pennsylvania.

The Delaware division of the Philadelphia, Wilmington, and Baltimore railroad.

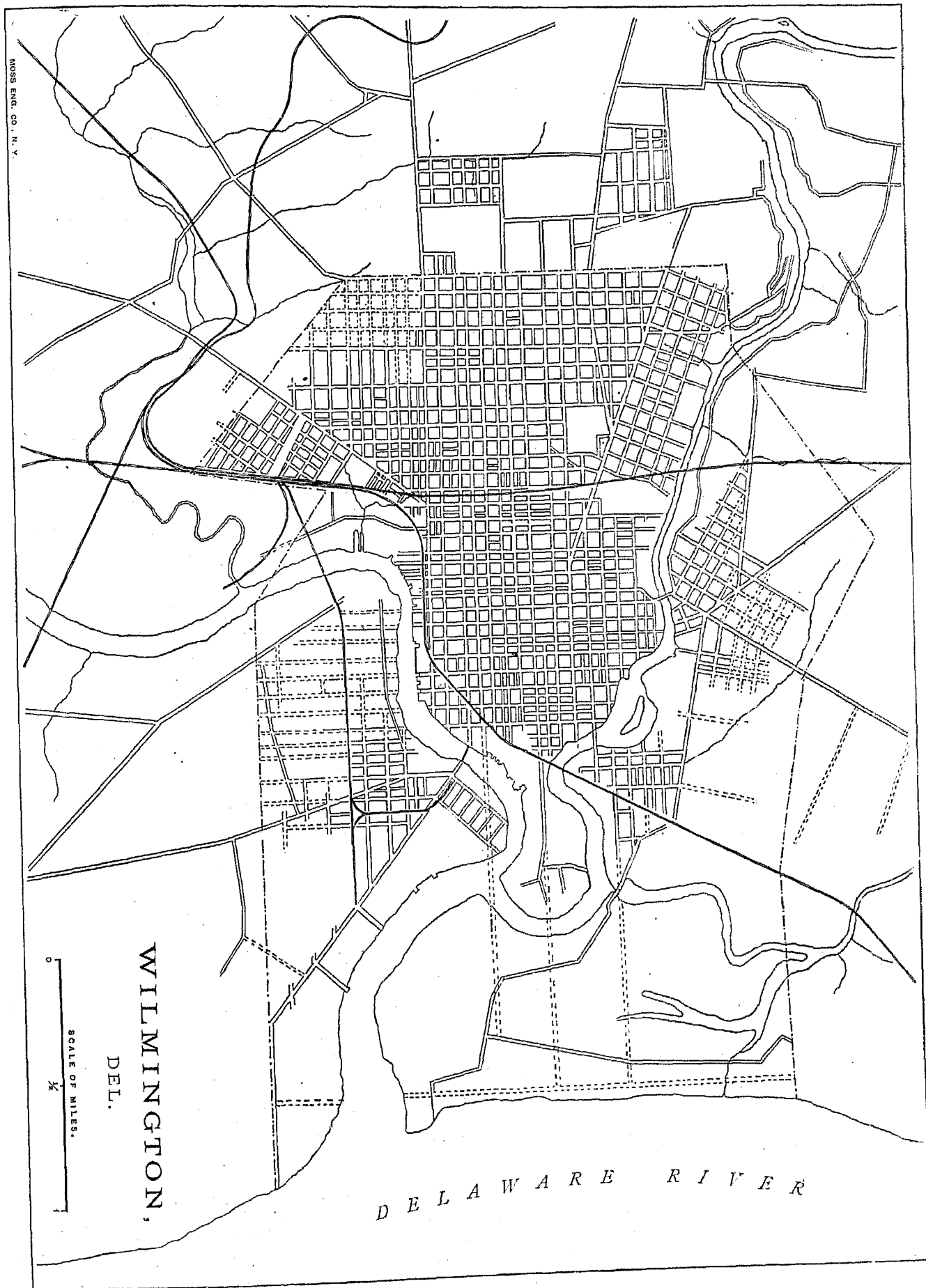
These railroads connect with others, and the network thus made affords to Wilmington excellent railroad communication with all important points.

MOSS ENG. CO., N. Y.

0
SCALE OF MILES.
1/2

WILMINGTON,
DEL.

DELAWARE RIVER



TRIBUTARY COUNTRY.

The country tributary to Wilmington is devoted both to agriculture and to manufacturing. The region is one of the most fertile in the middle states, and its products reach their market by way of Wilmington. Along the Brandywine, and the Christiana there are large cotton-, woolen-, powder-, flour-, and paper-mills, and along the Delaware are several large manufactories.

TOPOGRAPHY.

The city is situated at the meeting of the primitive rock formation and the sea-sand alluvial deposit. The substratum is granite covered with sand or gravel, except in the eastern section of the city, where it is covered with clay. The city is built on the crest of an elevation between the Christiana and the Brandywine, and the natural drainage is into these creeks. The land between the city and the Delaware is embanked and drained by ditches. There is but little woodland in the vicinity.

CLIMATE.

The highest summer temperature in average years is 88°, but a summer temperature of 96° has been recorded. The lowest recorded winter temperature is -13°, the lowest in average years ranging between zero and 9° above. The only appreciable influence of the adjacent waters on the city is felt in the slight dampness of the winds from the Atlantic. The lowlands along the Delaware are a cause of malarial disease, but their influence is not extensive. The prevailing winds are from the west, and are dry and invigorating.

STREETS.

Wilmington has 145 miles of streets, of which 17 miles are paved with cobble-stones and 6½ miles with broken stone. The cost of the cobble-stone pavement is 60 cents per square yard, while a square yard of the broken stone, which is laid 15 inches deep, costs \$2 40. The cobble-stone is found to be kept clean with greater ease, it is regarded as more economical than broken stone, and a decided preference is given to it. The annual cost of cleaning and repairing the streets is \$18,000, of which about \$6,500 is paid for the cleaning, the rest being expended in repairs.

The sidewalks are generally of brick, but occasionally flagstone walks are laid. The gutters are of flagstone and cobbles. Trees are planted along the sidewalks near the curbstones, and are generally placed about 30 feet apart. The construction and repairing of the streets is done by contract work. A steam-roller is in use on the streets.

The total length of the horse-railroads is 3 miles. They own 13 cars, 20 horses, and 29 mules; 17 men are employed, and during the past year 415,732 passengers were carried. The cash fare is 7 cents, but tickets are sold in packages of 20 for \$1, or 4 for 25 cents. There are no omnibus lines.

WATER-WORKS.

The water-works are owned by the city, and have cost it, in all, \$874,565. The water is pumped from Brandywine creek to a storage reservoir, and from this to a high-service reservoir. The pressure to the former is 60 pounds to the square inch, to the latter 47 pounds. The average pressure in the mains from the former is 60.2, from the latter 103.2 per square inch. The pumps are worked both by water and by steam-power. The daily average consumption is 3,759,170 gallons; the greatest amount ever pumped in one day was 6,452,480 gallons, the least, 968,640 gallons. The average cost of raising 1,000,000 gallons 1 foot high by water-power is 1¾ cent; by steam-power, 4¾ cents. The yearly cost of maintenance, aside from the cost of pumping, is \$13,061 63, and the yearly income from water-rates is \$60,029 13. No water-meters are used.

GAS.

The gas-works are the property of a private corporation. The daily average production is 135,000 cubic feet; the charge per 1,000 feet is \$2, and the city pays \$20 95 a year for each of the gas street-lamps, of which 500 are in use.

PUBLIC BUILDINGS.

The city owns a city hall, valued at \$56,000, a city hospital, and several school-houses and wharves. The total cost of these buildings was \$394,460.

PUBLIC PARKS AND PLEASURE-GROUNDS.

The city has no public parks.

PLACES OF AMUSEMENT.

There is 1 theater, commonly called "the Opera-house"; its seating capacity is 1,700. Theaters pay a license of \$25 annually to the city. Institute hall, seating 700, and Odd Fellows' hall, seating 400, are the only halls used for lectures and concerts.

There are no concert- and beer-gardens, properly so called, in the city.

CEMETERIES.

Wilmington has 7 cemeteries and 9 burial-grounds, as follows:

Wilmington and Brandywine Cemetery.—Area, 25 acres.

Riverview Cemetery (Odd Fellows').—Area, 20 acres.

Cathedral Cemetery (Roman Catholic).—Area, 40 acres.

Catholic Cemetery.—Area, 3 acres.

Zion Cemetery (colored).—Area, 2 acres.

Union Cemetery (colored).—Area, 3 acres.

New Castle Cemetery (almshouse).—Area, 24 acres.

The burial-grounds or church-yards are: Presbyterian, 2 acres; Asbury Methodist, 1 acre; Old Swedes', 2 acres; Baptist, $\frac{1}{2}$ acre; Friends', 2 acres; Saint Joseph's, 1 acre. There are also 2 old burial-grounds connected with the churches of the colored people, area, $\frac{1}{4}$ acre each; and Saint Peter's Catholic church-yard, area, about $\frac{1}{2}$ acre.

There are but few interments made in the church-yards of late years. The bodies have been removed from three other small burial-grounds and placed in the larger cemeteries.

The number of interments in all these various cemeteries and church-yards can not be stated. In some cases no records have been kept. Wilmington and Brandywine cemetery contains 8,019 bodies; Riverview, 1,350; Cathedral, 768; Zion, 700; and Union 674. The first of them is the most important, and is a beautiful resting-place of the dead. Each owner of a lot is a member of the corporation, and has a vote in its meetings. Graves in this cemetery must be dug 6 feet for adults, 5 feet for children between six and twelve years of age, and 4 feet for all others.

MARKETS.

There are 3 corporation markets in the city. Second Street market, situated between Market and King streets, contains 87 stalls, which are rented at \$42 each per year. Third Street market, at the corner of Third and King streets, has 102 stalls; the annual charge for a butcher's stall is \$70 per annum; of a farmer's, \$35.

Eighth Street market, at the corner of Eighth and Orange streets, has 123 stalls, butchers' stalls renting at \$60 per annum and farmers' at \$20. The total rental of the Second Street market is \$2,300; of the Third Street market, \$2,500; the owners refused to state the rental of the other market. The markets are open every day, but no information as to the hours or in regard to the gross annual sales could be obtained.

SANITARY AUTHORITY—BOARD OF HEALTH.

The city council, at its first stated meeting in May of each year, appoints a physician as health officer of the city, and two persons from each of the ten wards, to constitute, with a health officer, a board of health, to which is confided the charge of the public health. The annual amount appropriated for the use of the board is about \$1,300, of which \$700 is paid for incidental expenses, the abatement of nuisances, and the payment of the executive officers, and the remainder is consumed by the salaries of the clerk and the members. There is no limit to the amount to which the board may increase its expenses in case of an epidemic. In the absence of an epidemic the board has authority to abate and remove all nuisances injurious to the public health; to license persons to remove night-soil; to control the removal of garbage and the cleaning of the streets; and to prevent by any means in their power the introduction of infectious and contagious diseases into the city. In case of an epidemic the authority is extended to the power to order and compel a general cleansing of the city; to prevent intercourse with infected districts; to establish hospitals for the reception of persons afflicted with the disease, and to remove such persons thereto; and to remove persons from filthy or noxious habitations, or peculiarly exposed places, to other dwellings. The board can also establish a quarantine for all or any vessels coming to the city. In places where communication with infected places is interdicted, such interdiction can be only for a space of ten days, and any extension of the time requires an affirmative vote of two-thirds of the members of the board, and can not be for a longer period than another ten days. The city is divided into two districts, and an executive officer is appointed by the board for each, whose salary is \$200 and fees for each particular piece of work done. The fees generally amount to about \$200. In addition to these officers, the chief of police, all policemen, and the street commissioners are officers of the board, and are bound to execute its orders. None of the officers are physicians. The board meets twice in each month.

NUISANCES.

The two members from each ward form a committee for the ward, and attend to all nuisances coming under their notice, and hear all complaints. When a nuisance is found to exist the owner or occupant of the premises which caused the nuisance is required by the board to abate it, and if this request is disregarded the abatement is made by some officer of the board, and the expense is charged upon the owner, who must also pay costs.

Defective house-drainage, cesspools, and privy-vaults are regarded as nuisances, and as such are treated by the board. Defective sources of drinking-water are under the charge of a committee on impurities in the Brandywine.

When nuisances arise from defective sewerage or street-cleaning, complaint is made by the board to the city council. The pollution of the streams and harbor by casting into them dead or decaying matter of any kind is strictly forbidden.

GARBAGE.

The board of health is authorized by the city ordinances to contract with suitable parties for the removal of garbage, and to make any rules and regulations necessary to insure the proper performance of the contract, and to guard the public health from injury through want of care in keeping offal while awaiting removal.

BURIAL OF THE DEAD.

No interment can be made until the sexton making the burial has received a certificate signed by the attending physician, stating the name, sex, age, civil condition (married, single, or widowed), color, cause of death, etc., of the deceased, or has received sufficient verbal information in answer to these questions. Physicians are compelled to make a return, embodying the information stated above, to the family of the deceased. The registrar of deaths and burials keeps a record of these certificates.

No one who has died outside the city and been buried beyond its limits can be removed within the city until six months after interment. Persons dying of malignant diseases must be buried within twenty-four hours after their death. Persons dying of such diseases on board any ship in the harbor must be buried within three hours, or if the death took place at night the burial must be made before 6 a. m. of the following day.

INFECTIOUS DISEASES.

Small-pox patients are removed to a small-pox hospital, but scarlet-fever patients are neither isolated nor quarantined in any way. In case contagious diseases break out in the schools the board of health can take any action it thinks best to prevent an epidemic. Vaccination is not compulsory, but is at any time done at the public expense for those desiring it.

REPORTS.

The board of health makes no reports, but keeps a record which is at all times open to the public.

Births are not registered, but a record of diseases and deaths is kept by the registrar of vital statistics.

The account given above is of the board of health as contemplated by the statutes and ordinances of the city; but as contemplated by the supervisor of the census for Delaware it is a very different body, for he reports of it that it is "a very *outré* affair, and of no earthly use or benefit. They did nothing, and, of course, made no reports".

MUNICIPAL CLEANSING.

Street-cleaning.—The streets are cleaned by the city's force, under the direction of the street commissioner, and entirely by hand labor. The ordinances require them to be cleaned once in each week. The cost to the city is about \$6,500 a year. —The sweepings are used in filling low places.

Removal of garbage and ashes.—The board of health contracts for the removal both of garbage and of ashes. The same person may remove both, but it must be under two distinct contracts. While awaiting removal, garbage must be kept in vessels holding not more than a bushel, and separate from the ashes. The removal must be made in water-tight carts, marked "city garbage-cart", every week-day from May 1 until November 1, and at least three times a week during the rest of the year. Garbage is taken beyond the city limits and there disposed of. Ashes are used in filling low places. The garbage contractor receives \$3,040, and the ashes contractor \$3,000 a year. No injury to the public health is known to have arisen under this system.

Dead animals are removed by the executive officers of the board of health and buried. In 1880 the total number of dead animals was 934. The officers receive a fee for each animal thus disposed of, but the total expense on this account for the year can not be ascertained. It was about \$300.

Liquid household wastes.—All household wastes are disposed of alike, fully two-thirds going into the street-gutters, the rest into the public sewers, except a very little which runs into cesspools, or rather privy-vaults. There is no provision made in the city ordinances for the flushing of the gutters. The water department flushes them occasionally. As no wells are used for drinking-water in the city no injury to the public health from contamination of drinking-water of this sort has resulted; but as the street-gutters deliver into the Brandywine in many cases the water is greatly polluted, and the drinking-water of the city is thus made foul.

Human excreta.—About 16 per cent. of the houses are provided with water-closets, the other 84 per cent. depending on privy-vaults. Of the water-closets, only about 1 per cent. deliver into the public sewers. All the privy-vaults are water-tight. In the most thickly populated parts of the city they are 20 feet deep, and before being walled up are inspected by the street commissioner. In no place are they less than 6 feet deep. They are cleaned by the odorless-excavator process exclusively. The night-soil is manufactured into poudrette. No law prohibits its use as manure on lands within the gathering-ground of the public water-supply, but none is so used.

Manufacturing wastes are discharged into the streams surrounding the city below the point where water is taken for the public water-supply. The mayor reports that the system is defective, and that the city needs a system of sewerage. At present there are but 3 miles of public sewers.

POLICE.

The police force is appointed and governed by the mayor, who is also its chief executive officer, having as his subordinates a chief of police and 4 sergeants. The mayor's salary is \$1,200 a year. The chief of police receives \$700 per year and fees. He is high constable, and has general charge of the department, subject to the mayor. The sergeants receive \$650 a year and fees each. The rest of the force consists of 34 patrolmen or constables, salary \$50 a month and fees for arrests each. The uniform is of blue cloth with brass buttons, and an allowance of \$50 is made to each man annually for his uniform. The men are armed with a revolver, club, and twisters; they are on duty twelve hours a day each, and patrol 90 miles of streets. During the past year 2,234 arrests were made, the principal causes being intoxication, vagrancy, larceny, and assault. Most were disposed of by paying fines and costs, except for larceny, in which case, when the facts warranted, they were held for trial. No record of the number of station-house lodgers has been kept. These are only rarely supplied with food.

The force is required to co-operate with the fire and health departments of the city. Special policemen are appointed by the mayor for occasions when their assistance is necessary, and while on duty they are treated as regular members of the force.

The total cost of the department in 1880 was \$25,000.

FIRE DEPARTMENT.

The ordinances of the city provide that the fire department shall consist of 8 companies, and may at any time be increased by a two-thirds vote of the city council at three stated meetings of the council. The members are volunteers, and the chief engineer and his two assistant engineers are chosen by the department, each company casting one vote, not more than one engineer being a member of the same company. The chief engineer receives an annual salary of \$200, and the assistants \$100 each. An annual appropriation of \$2,500 is made for each company. The companies own their apparatus, and must have at least 1,000 feet of serviceable hose. The chief engineer makes an annual report to the city council. No detailed information as to the manual force, apparatus, number of fires, loss, etc., could be obtained.

COMMERCE AND NAVIGATION.

[From the reports of the Bureau of Statistics for the fiscal years ending June 30.]

Customs district of Delaware.(a)	1879.	1880.
Total value of imports.....	\$24, 076	\$7, 733
Total value of exports:		
Domestic.....	\$35, 467	\$270, 309
Foreign.....	None.	None.
Total number of immigrants.....	None.	None.

Customs district of Delaware.(a)	1879.		1880.	
	Number.	Tons.	Number.	Tons.
Vessels in foreign trade:				
Entered.....	11	2, 913	11	3, 901
Cleared.....	5	679	10	2, 921
Vessels in coast trade and fisheries:				
Entered.....	41	9, 504	42	11, 790
Cleared.....	14	6, 007	8	4, 036
Vessels registered, enrolled, and licensed in district.	193	16, 182	162	16, 287
Vessels built during the year.....	21	6, 627	22	8, 473

a Wilmington, Delaware.

MANUFACTURES.

The following is a summary of the statistics of manufactures of Wilmington for 1880, being taken from tables prepared for the Tenth Census by James B. Henry, special agent:

Mechanical and manufacturing industries.	No. of establishments.	Capital.	AVERAGE NUMBER OF HANDS EMPLOYED.			Total amount paid in wages during the year.	Value of materials.	Value of products.
			Males above 16 years.	Females above 15 years.	Children and youths.			
All industries.....	258	\$10,744,389	6,871	459	522	\$3,174,821	\$7,884,847	\$13,205,370
Blacksmithing (see also Wheelwrighting)	10	28,400	51	.....	2	23,075	14,780	58,150
Boots and shoes, including custom work and repairing	6	16,360	19	.....	.....	6,400	7,000	17,500
Bread and other bakery products.....	14	109,700	44	12	15	25,130	97,455	158,200
Brick and tile	3	85,000	168	.....	68	43,416	22,178	89,600
Carpentering	13	42,500	105	.....	.....	41,000	109,900	202,200
Carriage and wagon materials	6	108,000	98	.....	8	43,750	47,500	126,000
Carriages and wagons (see also Wheelwrighting).....	12	415,270	373	1	10	128,656	263,098	479,067
Clothing, men's	6	70,500	52	30	1	25,100	44,600	86,600
Coffins, burial cases, and undertakers' goods	7	19,000	10	.....	.....	5,250	10,760	24,600
Confectionery.....	3	49,000	10	2	.....	5,600	18,000	35,000
Cotton goods.....	4	385,000	154	232	83	125,892	350,762	545,460
Foundry and machine-shop products	12	755,800	730	.....	49	260,168	323,472	671,125
Furniture.....	3	36,200	20	2	1	8,000	7,700	20,800
Iron and steel.....	4	1,109,469	584	.....	26	276,346	1,010,979	2,004,570
Iron forgings	3	51,000	53	.....	.....	16,350	57,043	83,782
Kindling wood.....	4	6,800	15	.....	.....	3,975	4,150	12,500
Leather, dressed skins.....	14	861,600	791	52	71	364,944	1,300,860	1,801,597
Looking-glass and picture frames.....	3	1,900	2	.....	1	1,650	2,400	6,500
Marble and stone work	3	27,500	23	.....	.....	8,400	10,000	22,400
Masonry, brick and stone.....	7	21,000	75	.....	2	22,500	103,500	170,000
Paper	3	2,448,000	163	61	6	102,817	548,009	682,005
Roofing and roofing materials	3	10,500	16	.....	.....	8,344	11,500	29,500
Saddlery and harness	10	23,700	31	.....	1	12,500	28,300	57,500
Shipbuilding.....	8	905,500	1,454	.....	.....	850,248	836,608	1,074,203
Soap and candles	3	14,800	12	.....	1	5,180	13,400	22,070
Tinware, copperware, and sheet-iron ware	14	110,600	61	.....	9	31,168	81,963	159,627
Tobacco, cigars and cigarettes.....	23	32,300	50	13	14	24,420	34,840	78,453
Wheelwrighting (see also Blacksmithing; Carriages and wagons)...	7	24,150	52	.....	6	23,450	10,600	45,700
All other industries (a)	44	2,975,900	1,651	54	148	681,552	2,512,515	3,532,361

a Embracing bags, paper; baskets, rattan and willow ware; belting and hose, leather; bookbinding and blank-book making; boot and shoe cut stock; boot and shoe uppers; brooms and brushes; cars, railroad, street, and repairs; coffee and spices, roasted and ground; cooperage; coppersmithing; dentists' materials; flouring- and grist-mill products; grease and tallow; gunpowder; iron bolts, nuts, washers, and rivets; jute and jute goods; leather, curried; lignors, malt; lumber, planed; matches; mineral and soda waters; mats and matting; painting and paperhanging; paints; pumps; rubber, vulcanized; saws; slaughtering and meat-packing; sporting goods; springs, steel, car, and carriage; stone- and earthen-ware; tools; upholstering; and wooden ware.

From the foregoing table it appears that the average capital of all establishments is \$41,644 92; that the average wages of all hands employed is \$404 33 per annum; that the average outlay in wages, in materials, and in interest (at 6 per cent.) on capital employed is \$45,365 63.

TABULATED INDEX
OF
CITIES AND SUBJECTS.

TABULATED INDEX OF CITIES AND SUBJECTS.

	City.	State.	Cometes.	Climate.	Commerce and navigation.	Distance chart.	Drainage.	Financial condition.	Fire department.	Garbage.	Gas.	History.	Infectious diseases.	Inspection.	Interments.	Location.
			Page.	Page.	Page.	Page.	Page.	Page.	Page.	Page.	Page.	Page.	Page.	Page.	Page.	Page.
1	Albany	N. Y.	455	453	.....	447	454, 455	447	.....	456	454	447-452	456	.....	456	447, 452
2	Allegheny	Pa.	738	735	.....	733	736, 737	733	740	738, 739	736	733, 734	733, 739	738	738	733, 735
3	Allentown	Pa.	745	744	.....	742	744	742	746	745, 746	744	742, 743	745	.....	745	742, 743
4	Altoona	Pa.	.....	.....	.....	748	.....	748	.....	740	.....	.....	.....	.....	.....	748
5	Atlantic City	N. J.	677	676	.....	675	677	675	.....	767, 768	676	675, 676	677, 678	677	677	675, 676
6	Auburn	N. Y.	463	461	.....	460	462	460	.....	463, 464	462	460	463	463	463	460, 461
7	Augusta	Me.	6	5	.....	1	6	1	.....	7	4	1-4	7	7	7	1, 4
8	Bangor	Me.	14	12	16	9	13	9	16	15	12	9-11	15	14	15	9, 11
9	Biddeford	Me.	19	18	.....	17	18	17	20	19, 20	18	.....	19	19	19	17
10	Binghamton	N. Y.	468	468	.....	466	468	466	.....	468	466, 467	.....	.....	.....	.....	466, 467
11	Boston	Mass.	112	109	(a)	91	130	91, 111	120	125-129	.....	91-107	124	123	124	91, 108
12	Bridgeport	Conn.	391	389	.....	387	390	387	392	391, 392	389	387, 388	391	391	391	387, 388
13	Brockton	Mass.	164	164	.....	163	164, 165	163	165	165	164	163	.....	.....	.....	163, 164
14	Brooklyn	N. Y.	481, 482	473	.....	469	476-481	469	.....	482, 484	475	469-471	482	482, 483	482	469, 471
15	Buffalo	N. Y.	502	503	506, 507	491	503-505	491	506	505	503	491-501	505	505	505	491, 501
16	Burlington	Vt.	82	78	.....	76	80	76	83	82	78	76, 77	82	82	82	76, 77
17	Cambridge	Mass.	173	171	.....	166	172, 173	166	175	174	171	166-170	174	174	173, 174	166, 170
18	Camden	N. J.	681, 682	681	.....	679	681	679	.....	682	681	679, 680	682, 683	682	682	679, 680
19	Chelsea	Mass.	180	178	.....	177	179, 180	177	182	181	179	177	181	181	181	177, 178
20	Chester	Pa.	752	751	.....	750	752	750	.....	752, 753	752	750	.....	752	.....	750, 751
21	Chicopee	Mass.	186	186	.....	184	186	184	.....	187	186	184, 185	187	187	187	184, 185
22	Cohoes	N. Y.	511	510	.....	509	511	509	.....	512	511	509, 510	512	512	512	509, 510
23	Concord	N. H.	45	43	.....	40	44	40	46	45	44	40-42	45	45	45	40, 42
24	Danbury	Conn.	396	396	.....	394	.....	394	397	396	396	394, 395	397	396	396	394, 395
25	Dover	N. H.	49	48	.....	47	48	47	51	50	48	.....	50	50	49, 50	47
26	Easton	Pa.	.....	.....	.....	754	755	754	755	.....	755	754, 755	.....	.....	.....	754
27	Elizabeth	N. J.	687	686	.....	685	687	685	.....	688	686	685	688	688	688	685, 686
28	Elmira	N. Y.	516	515	.....	514	516	514	518	517	515	514	517	517	517	514, 515
29	Erie	Pa.	759	757	761	756	758, 759	756	760	759, 760	758	756	759, 760	759	759	756, 757
30	Fall River	Mass.	195	192	197	189	193, 194	189	196	195	193	189-191	195	195	195	189, 191
31	Fitchburg	Mass.	205	203	.....	190	204	190	206	206	204	190-202	205	205	205	190, 203
32	Gloucester	Mass.	210	209	213	208	210	208	212	211	210	208, 209	211	211	210, 211	208, 209
33	Harrisburg	Pa.	.....	.....	.....	662	.....	762	.....	764	.....	762, 763	763	.....	763	762, 763
34	Hartford	Conn.	402	400	.....	398	401, 402	398	404	403	401	398, 399	403	403	403	398, 400
35	Haverhill	Mass.	218	216	.....	214	217	214	.....	218	217	214-216	218	218	218	214, 216
36	Hoboken	N. J.	694	691	.....	690	692-694	690	695	694	692	690, 691	.....	.....	694	690, 691
37	Holyoke	Mass.	224	223	.....	220	224	220	225	225	223	220-222	224	224	224	220, 222
38	Jersey City	N. J.	701	693, 700	.....	697	701	697	703, 704	702	700	697, 698	702, 703	702	702	697, 698
39	Kingston	N. Y.	.....	.....	520	520	.....	520	.....	.....	.....	520	.....	.....	.....	520
40	Lancaster	Pa.	.....	.....	.....	765	.....	765	.....	.....	.....	765-767	.....	.....	.....	765
41	Lawrence	Mass.	231	229	.....	227	230	227	.....	231	230	227-229	231	231	.....	227, 229
42	Lewiston	Me.	25	24	.....	22	25	22	27	26	.....	22, 23	26	26	25	22, 23
43	Lockport	N. Y.	523	522	.....	521	523	521	524	523	522	521	523	523	523	521, 522
44	Lowell	Mass.	238	236	234	237	234	240	239	237	234-236	239	238	239	234, 236
45	Lynn	Mass.	246	244	242	246	242	248	247	245	242, 243	247	246	242, 244

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Manufactures.	Markets.	Municipal cleansing.	Parks.	Penal, reformatory, charitable, and health institutions.	Places of amusement.	Police.	Pollution of streams.	Population by decades, and by present division.	Public buildings.	Railroads.	Sanitary authority.	Schools and libraries (public).	Streets.	Topography.	Tributary country.	Water-courses, harbors, etc.	Water-works.
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748	745	746	744	744	744	740	742	742	744	743	745	747	744	744	744	743	744
	877	678	677	677	677	678	677	675	676	670	677	677	676	676	676	676	676
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4	6	7	5	5	5	7	1	5	5	5	6	8	5	5	5	5	7
	14	15	13		13	15	15	9	13	11	14	16	12	12	12	11	12
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	82	83	80		80	83	82	70	80	77	82	84	78	78	78	77	78
175	173	174	172		172	174		166	171	171	173		171	171	171		171
684	682	683	681		681	683		679	681	680	682		681	680	680	680	681
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	752	753	752		752	753	752	750	752	751	752		751	751	751	751	751
	187	187	186		186	188		184	186	185	187	188	186	185	185	185	185
	511	512	511		511	512, 513	512	509	511	510	511		510	510	510	510	510
	45	45	44		44	46		40	44	42	45		43	43	42	42	43
	396	397	396		396	397	396	394	396	395	396		396	395	395		396
	49	50	49		49	51		47	49	48	50	51	48	48	48	47	48
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48	Meriden	Conn.	409	408		406	409	406	410	410	408	406, 407	409		400	406, 407
49	Metropolis					531										531, 532
50	Middletown	Conn.	413	412	414	411	413	411	414	414	412	411, 412	413	413	413	411, 412
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52	Newark	N. J.	710, 711	709		706	710	706		703	709	706-708	712	702	702	706, 708
53	New Bedford	Mass.	250	258	261	255	259	255		260	258	255-257	260	260	260	255, 257
54	New Britain	Conn.	417	416		415	417	415	418	418	410	415, 416	418	418	418	415, 416
55	New Brunswick	N. J.				715		715				715				715
56	Newburg	N. Y.	528	527		525	528	525	530	529	528	525-527	529	529	529	525, 527
57	Newburyport	Mass.	267	266	269	263	267	263	268	267	266	263, 264	267	267	267	263, 265
58	New Haven	Conn.	423	421	425	419	422, 423	419	425	424	421	419, 420	424	424	424	419, 420
59	New London	Conn.	431	430	433	428	431	428	433	432	431	428-430	432	431		428, 430
60	Newport	R. I.	347	345	348	343	340	343	348	347	345	343, 344	347	347	347	343, 344
61	Newton	Mass.	273	272		270	272	270	274	274	272	270, 271	273	273	273	270, 271
62	New York	N. Y.	587, 588	593	593	593	598-597	593, 593	592	590	596	593-597	590	589	590	593, 598
63	Norristown	Pa.	771	770		769	771	769		772	771	769, 770				769, 770
64	North Adams	Mass.	279	278		276	278	276	280	279	278	276, 277	279	279	279	276, 277
65	Norwich	Conn.	437	436		434	437	434	439	438	437	434, 435	438	438	438	434, 436
66	Ogdensburg	N. Y.	600	599		598	600	598	601		600	598	601			598, 600
67	Orange	N. J.	718	717		716	718	716	720	719	718	716, 717	719	718		716, 717
68	Oswego	N. Y.	606	604	609	602	605, 606	602	608	607	604	602, 603	607	607	606	602, 604
69	Paterson	N. J.	724	722		721	723, 724	721		725	723	721, 722	725	725	725	721, 722
70	Pawtucket	R. I.	351	351		349	351	349	353	352	351	349, 350	352	352	352	349, 350
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72	Pittsburgh	Pa.	867	864, 865		850	867	850	871	859	860	850-860	868	869	869	850, 860
73	Pittsfield	Mass.	284	283		281	284	281	286	285	283	281, 282	285	284	284	281, 282
74	Portland	Me.	35	33	37	30	34	30	37	30		30-32	35		35	30, 32
75	Portsmouth	N. H.	73	72	75	69	73	69	75	74	72	69-71	74	74	73	69, 71
76	Pottsville	Pa.	874	874		873	874	873		875	874	873	875			873, 874
77	Poughkeepsie	N. Y.	612	611		610	612	610		613	611	610, 611	613	613	612	610, 611
78	Providence	R. I.	377	371	381	354	374-377	354	380	378	373	354-380	378	377	377	354, 360
79	Reading	Pa.	878	877		876	878	876	880	879	878	876, 877	879	878	879	876, 877
80	Rochester	N. Y.				615		615		622		615-617	622	622	622	615, 617
81	Rome	N. Y.	633			625	633	625		633	632	625-632	633	633	633	625, 632
82	Rutland	Vt.	88	87		85	88	85	90	89	87	85, 86	89	89	88	85, 86
83	Salem	Mass.	296	291	298	287	292-296	287		297	292	287-291	297	297	296	287, 291
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85	Scranton	Pa.	884	883		882	883, 884	882	885	885		882	884, 885	884	884	882, 883
86	Somerville	Mass.	303	301		300	302, 303	300	305	304	302	300, 301	304	303	303	300, 301
87	Springfield	Mass.	311	309		307	310	307	312	312	309	307, 308	311	311	311	307, 309
88	Syracuse	N. Y.	645	644		637	645	637	647	646	644	637-643	646	646	646	637, 643
89	Taunton	Mass.	317	316		315	317	315		318	317	315, 316	318	318	318	315, 316
90	Trenton	N. J.	730	730		728	730	728	731		730	728, 729	731	730		728, 729
91	Troy	N. Y.	653	652		649	652, 653	649	654	654	652	649-651	653, 654	653	653	649, 651
92	Utica	N. Y.	660	658		657	659, 660	657	662	661	659	657, 658	661	661	660	657, 658
93	Waltham	Mass.	324	323		321	324	321	325	324	323	321, 322	324	324	324	321, 323
94	Waterbury	Conn.	443	442		440	443	440		443	442	440-442	443	443	443	440, 442
95	Watertown	N. Y.	667	666		664	667	664		667	666	664, 665	667	667	667	664, 665
96	Weymouth	Mass.	328	328		326	328	326	329	329		326, 327	329	328	328	326, 327
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100	Woburn	Mass.	332	332		330	332	330	334	333	332	330, 331	333	333	332	330, 331
101	Woonsocket	R. I.	385	384		383		383		386	385	383, 384	386	385	386	383, 384
102	Worcester	Mass.	339	337		335	338, 339	335	341	340	337	335, 336	340	340	340	335, 336
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	417	418	417	417	417	418	415	416	416	417	417	416	416	416	416	416	54
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